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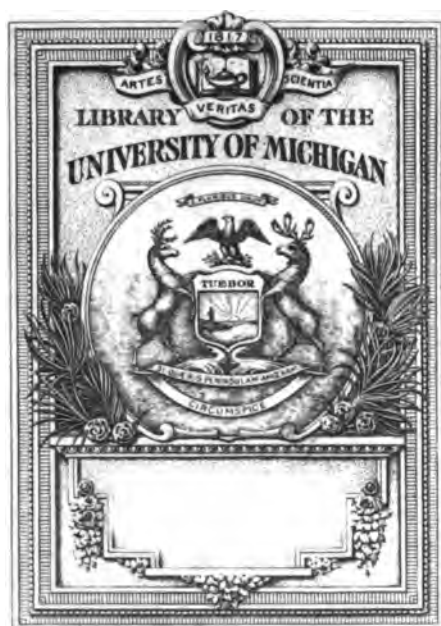
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SEVENTH BIENNIAL REPORT

OR THE

TWENTY-NINTH AND THIRTIETH ANNUAL REPORTS

OF THE

Kansas. State Board of Health

OF THE

STATE OF KANSAS,

FROM

June 30, 1912, to June 30, 1914.



KANSAS STATE PRINTING OFFICE.

W. C. AUSTIN, State Printer.

TOPEKA, 1914.

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LETTER OF TRANSMITTAL.

OFFICE OF SECRETARY STATE BOARD OF HEALTH,
TOPEKA, KAN., Sept. 1, 1914.

To His Excellency, George H. Hodges, Governor:

Sir—In compliance with the laws of this state, I have the honor to herewith submit to you the seventh biennial report, or the twenty-ninth and thirtieth annual reports consolidated, of the Kansas State Board of Health, for the biennium June 30, 1912, to June 30, 1914.

Very respectfully,

S. J. CRUMBINE, M. D., *Secretary.*

SEVENTH BIENNIAL REPORT.

The general health conditions of the state for the period included in this report have been very satisfactory when viewed from the standpoint that there have been no great or general outbreaks of malignant diseases, although, viewed from the standpoint of our present knowledge concerning the prevention of disease, we can be but painfully conscious of the fact that there has been considerable sickness and even death from preventable causes, which should and could have been prevented had the ways and means been provided for the work. The mass of the people have no conscious realization that the occurrence of preventable sickness and death is a tremendous economic loss to the community and to the state, both in the matter of expenditure of money to combat disease after it has once started, but more particularly in the loss of wage due to sickness, and to the enormous cost attending sickness and death. John Locke has truthfully said that "prevention is better than cure, and far cheaper."

DIVISIONS OF THE WORK.

The work of the State Board of Health is divided into the following divisions:

- (1) Division of Communicable Diseases and Sanitation.
- (2) Division of Water and Sewage.
- (3) Division of Foods and Drugs.
- (4) Division of Vital Statistics.
- (5) Division of Research, Education and Publicity.
- (6) Division of Antitoxins, Serums, Vaccines, and Prophylactic Supplies.

The work of these various divisions during the past biennium has been conducted in a fairly efficient and satisfactory manner considering the fact that our appropriations for maintenance in several of the divisions were very considerably reduced by the last legislature.

(1) *Division of Communicable Diseases and Sanitation.*

Doctor John J. Sippy, epidemiologist, is at the head of this division. Much important work has been done, and real progress made, in this division for the past two years. Among the things of importance accomplished that might be mentioned in this brief report is the rural survey made of Sumner county, which it is believed was one of the most thoroughgoing and

searching rural surveys ever made in this country. Sumner county was selected by reason of the fact that a considerable amount of rural typhoid fever has prevailed there for the past few years. It was thought, therefore, that not only might rural conditions be studied in a typical Kansas agricultural county, but that the cause for the perennial typhoid fever might be discovered and means and measures suggested for its prevention.

At this time a statistical study of cancer has been undertaken by this division, and a *questionnaire* is being sent out, together with request for very complete and detailed information concerning the history of every case of death from cancer occurring in the state. It is hoped that after another year's cases have thus been gathered and tabulated, the compiled data may offer a suggestive field for further study into the cause of this malignant disease, which seems to be on the increase in America.

A large number of epidemics were investigated by the epidemiologist, including a continuance of the study of the incidence of tuberculosis.

(2) *Division of Water and Sewage.*

It has been the policy of this division of the Board's work, since the passage of the water and sewage law in 1907, to continue our efforts looking toward the prevention of the further pollution of the natural waters of the state, and to insist upon the purification of domestic sewerage from all cities discharging such sewerage into streams that are used as a source of public water supply. The success of the division's work can best be illustrated by indicating that there are at present forty-four cities in the state that have installed a total of 51 sewerage purification plants, as well as a number of private purification plants for industrial wastes which have been installed at the insistence of the State Board of Health. This work has entailed a large amount of investigational and research work, the value of which is more than commensurate with the amount of time and money expended. In this division also we find ourselves hampered by reduction of our appropriation for carrying on the work, which already was much too small for the vast amount of work to be done. This division, in conjunction with the State Water Survey laboratories of the University, which are the water laboratories of the State Board of Health, has had an extra burden the past year in the collection and analyzing of water used on all the railroads in Kansas, which analyses are required under the federal quarantine order issued by the Department of the Interior. The lack of sufficient funds was keenly felt in doing this work; indeed, it would have been impossible to accomplish this large amount of added work had it not been ordered by the State Board of Administration for Educational Insti-

tutions and the charging of a fee for such examinations and collections, which, in turn, was utilized in paying for the expenses incident to such collection and analyses.

If the purity of the natural waters of the state is to be preserved, and the industrial wastes from large and important industries in this state to receive the necessary investigation to determine a proper disposal of the same, a large amount of additional funds must be available for carrying on the work. The state of Maryland, many times smaller than Kansas, appropriates \$25,000 annually to this division of their work. It is believed that the importance of the work is equally as great in Kansas, and should have equally adequate support.

(3) Division of Foods and Drugs.

This is the division of the department's work which economically brings great returns to the consumers of this state through the enforcement of the food and drugs law and the weights and measures law.

The policy of retrenchment in this department, inaugurated by the last legislature, has been felt more keenly in this division's work than any other, one inspector having been taken off the force and one stenographer and clerk removed, which has been so sadly needed because of the heavy office work, and the appropriation for expenses greatly reduced, all of which have very severely crippled this division's work during the past year. When it can be truly stated that this division saves the consumers of the state a sum equal to more than a million dollars annually in preventing the use of short weights and measures and in the sale of adulterated and fraudulent foods and drugs, it is believed that the curtailing of this division of the Board's work is an economic waste rather than a saving, and it is respectfully suggested that the working force in this division be restored, and that adequate appropriation be made for the maintenance of the division.

Other states of equal population and area have many times greater facilities for food and drug work than has Kansas. For illustration: The state of Minnesota is slightly smaller in area, although slightly larger in population than Kansas. That state has twenty food and dairy inspectors, as compared with Kansas' three food inspectors and one dairy inspector (under the dairy commissioner); besides, Minnesota has a separate department of weights and measures, with ten traveling inspectors to enforce that law, whereas the three Kansas food inspectors are expected also to enforce the weights and measures law. The appropriation for maintenance in Minnesota for similar work is tenfold greater than for Kansas. Similar disparaging comparisons could be made with central western states such as Iowa, Illinois, Indiana, etc.

(4) Division of Vital Statistics.

In the March, 1914, Bulletin of the State Board of Health was published the biennial report of the state registrar of vital statistics, Mr. W. J. V. Deacon, to which reference can be made for detailed information as to the conduct of the work of this division. It is believed that the statistical data gathered from Kansas in this division is of sufficient accuracy to admit Kansas in the registration area at an early date.

As indicated in other reports, the legal and sanitary value of collected vital statistics can not be overestimated in public-health work. Indeed, effective public-health work can not be carried on without having for its basis reasonably accurate data. Moreover, the effective enforcement of the state child-labor law is difficult if not altogether impossible without the establishment of legal records of birth. Work in child welfare and child hygiene must have as its fundamental basis the collection of accurate vital statistics in relation to the birth of the child, on the one hand, and accurate record of deaths of infants, on the other. In this connection it is thought that the division of vital statistics already established in the State Board of Health offers an opportunity for the use of the collected data, secured by this division, for the inauguration of child hygiene work, and it is respectfully urged that a new division be created in the department's activities, known as the "division of child hygiene." Such recommendation has already had the cordial indorsement of every state organization of women in Kansas. A careful estimate of the expense of such a new division would be a sum equivalent to \$15,000 annually. There are approximately 40,000 babies born in Kansas each year. The records of such births, together with the names of the parents, are required to be filed in the central division of vital statistics, this office. It can be seen at once that a splendid opportunity is presented to come into very direct and vital touch with every baby born in the state. It is confidently believed that with the creation of such a new division as is above suggested the high infant mortality rate might be very greatly reduced, and many a young Kansas life saved for future citizenship.

(5) Division of Research, Education and Publicity.

The research work concerning the cause of pellagra has been continued under the joint control of the state entomologist of the University of Kansas, Prof. S. J. Hunter, and this division of the department. This work has also been greatly handicapped by lack of proper financial means. It is pretty generally held among expert sanitarians and public-health workers everywhere that one of the necessary functions of state departments of health is that of original investigation and research into the cause and dissemination of disease, be-

cause of the greater facilities such boards have for the observation of epidemics and the legal authority for their control; the opportunities for research are therefore made easy, with but few, if any, barriers to making investigations. A second function of state boards of health upon which emphasis should be placed is that of education along the lines of prevention rather than simply to act as police officers in the matter of combating disease after it has once gained a foothold in a community. This department has emphasized the educational features of the Kansas State Board of Health for a good many years through the medium of exhibits, public-health lectures, stereopticon addresses and moving-picture films, together with the publication of literature upon the various communicable diseases, and, last but not least, the publication of our monthly BULLETIN. This, the chief and most important work of the State Board of Health, should receive the encouragement that it deserves by large and increased appropriations.

(6) *Division of Antitoxins, Serums, Vaccines and Prophylactic Supplies.*

The value of the free distribution of antitoxins, serums, and vaccines to the indigent poor of the state for the suppression of disease has been so frequently and amply demonstrated, not only by this department, but by other state boards of health, that it has become the settled policies of all public-health departments throughout the civilized world. It is believed that in addition to the work already done by this division, that a portion of the state taxes received from licensing dogs should be appropriated to this division for the purpose of giving free antirabic treatment to citizens of the state who are bitten by rabid dogs. It is therefore recommended that the state dog-tax law be amended to provide for the above treatment.

The following appropriations are recommended to conduct the department during the coming biennium:

APPROPRIATIONS.		
	1916	1917
Secretary	\$2,500	\$2,500
Three clerks and stenographers, at \$900 each.....	2,700	2,700
Sanitary fund for carrying out the provisions of chapter 382, Laws of 1907, for investigations into stream pollution and for other sanitary purposes	10,000	10,000
Miscellaneous and incidental expenses, including the expenses of the chief food and drug inspector to the annual conference of the Association of American Dairy, Food and Drug Officials, as authorized in section 12 of chapter 266, Laws of 1907, and the expenses of a representative of the State Board of Health to the annual conference of the State and Provincial Boards of Health, and the conference of the surgeon general of the United States Public Health Service with the state health officers, as authorized by an act of Congress, July 1, 1902, and for other trips outside of the state upon the order of the governor.....	3,000	3,000

	1916	1917
Deficiency, 1914	\$57.27	
Assistant chief food and drug inspector.....	\$1,800	\$1,800
For the purpose of the free distribution of anti-toxins, vaccines and other prophylactic supplies,	2,000	2,000
For original research and investigation into the cause of diseases, and for the suppression of communicable diseases and industrial and occupational diseases	10,000	10,000
Five food and drug inspectors, but in no wise shall the amount paid to any inspector exceed the scale provided in section 4, chapter 184, Laws of 1909,	7,500	7,500
Traveling expenses of inspectors	6,000	6,000
Purchase of samples and other incidentals.....	500	500
Bacteriologist	1,200	1,200
Maintenance of state laboratory of hygiene.....	500	500
Expenses, members of the State Board of Health, postage and incidentals	1,200	1,200
Deficiency, 1914	\$68.04	
Deficiency, 1914	26.08	
Emergency fund	5,000	5,000
For maintenance division of child hygiene.....	15,000	15,000

The United States Public Health Service is authority for the statement that if state boards of health are expected to do efficient work, or to approach anywhere near the standards required of them as to character and quality of work performed, they should have at least *two per cent* of the total appropriations made by the state for *all purposes*. This estimate does not include appropriations for food and drug work.

The appropriation above suggested, not counting that for food and drug work, is scarcely in excess of one per cent of the total state appropriations.

Kansas opens wide her doors to all peoples. It is in the health of a state and the citizens thereof that it grows; it is not in disease that it erects—it is in pestilence that effort ceases and hope dies. In the not very long ago you created a department of health. You bade it guard the health interests of the citizens of the state; you gave it a trust that may not be broken; you charged it with a vigil that is sacred. Thus you assumed a duty—in fact, you tendered fealty to this, one of your greatest departments—for did you not bid it watch over the lives and health of men, women and little children? Is there any right more important than the right to live? Do you prefer a higher death rate than a trifling increase in the tax rate?

The wages of filth is disease, which neither creed nor faith nor party may forget!

Respectfully submitted.

S. J. CRUMBINE, M. D., *Secretary*.

REPORT OF THE SECRETARY.

THE FIRST QUARTERLY MEETING OF THE STATE BOARD OF HEALTH.

HELD AT MANHATTAN, KAN., NOVEMBER 15 AND 16, 1912.

THE SUMMER SCHOOL FOR HEALTH OFFICERS AND PHYSICIANS.

MR. PRESIDENT AND MEMBERS OF THE STATE BOARD OF HEALTH: The week following the annual meeting of the Board, held June 6 and 7, 1912, the second annual Summer School for Health Officers and Physicians convened at the University of Kansas, and was in session the entire week. The attendance was highly satisfactory, there having been fifty physicians registered, the majority of whom were in attendance during the entire course. It is worthy of note also that five of the physicians attending were not health officers, but were common practitioners, evidently sufficiently interested in public-health matters to take the time and be at the expense of attending the sessions of the school.

Two experts from the Public Health Service had prominent places on the program, and it was gratifying to hear the expressions from these two men as to the valuable service such schools of instruction were for the purpose of building up efficient sanitary organizations.

It is confidently hoped that each succeeding year the attendance at the summer school will increase, and that the course of instruction will also continue to increase in quality and interest. It is proposed to give certificates of attendance to all those who were present during the entire course.

FOODS AND DRUGS.

On June 29 the manufacturers of vinegar in this state were called in conference for the purpose of discussing the proposition adopted by the State Board of Health at its annual meeting to the effect that it was then thought desirable to follow the federal regulations on vinegar. Mr. Walter Wellhouse, secretary of the Horticultural Society, was invited to be present. After a thorough discussion those present at the conference were of the unanimous opinion that cider vinegar should not be permitted to be diluted with water, in accordance with the federal regulations, as it was thought such action would be contrary to the special vinegar law on the statute books. It was therefore agreed that nothing further would be done pending the next meeting of the Board. In the meantime a *questionnaire* was sent to every wholesale jobber and manufacturer in the state, making inquiry as to the amount of diluted cider vinegar that was in the hands of the jobbing trade. The result of this census revealed the fact that there was a considerable amount of this product in the hands of some of the jobbers, and it was therefore agreed that no objection would be offered to the sale of the diluted cider vinegar up to November 1, 1912. This seemed to meet with the approval of both jobbers and manufacturers as well as with the horticulturists of the state, who were represented by the secretary of the Horticultural Society.

It was therefore recommended that the action of the State Board of Health at its annual conference be rescinded, leaving the vinegar standards and the administration of the vinegar law the same as before the Board's action in June.

For years complaint has come to the department of the practice of certain grain elevators in mixing deteriorated or inferior wheat with wheat of

better quality in just such proportions as to enable the wheat to pass grade, thus making it possible for them to dispose of quantities of sprouty or stack-burned wheat at prices for No. 2 wheat, but in so doing reducing, lowering and injuriously affecting its quality, which under the food and drugs law constitutes adulteration. Accordingly, the following circular letter was sent to all grain dealers and grain elevators in the state whose addresses we could obtain:

"TOPEKA, KAN., July 8, 1912.

"To Grain Elevators and Grain Dealers in Kansas:

"A great deal of complaint comes to this department of the large amount of weed seed and other extraneous grain found in wheat, and I am reliably advised that wheat can be thrashed and screened as to be practically free from weed seed. The standards under the Kansas food and drugs law do not permit the presence of weed seed and other extraneous grain in 'significant quantities,' and if weed seed is used in any 'significant quantity' it is considered an adulteration under the law.

"Recognizing the fact that, perhaps, it is impossible, even with thorough screening, to keep out all of the weed seed, the department has made a tentative ruling that if wheat—and this applies to any grade of wheat, as grades were not considered under the food and drugs act—contains more than one-half pound of weed seed or other foreign matter to the bushel, such wheat will be considered adulterated, and the department will contest such adulteration in the courts. It is believed that this is a very liberal tolerance, and its reasonableness should be recognized by all grain dealers. The thrashers have been notified of the ruling of the department.

"I might also add that the addition of other kinds of grain or weed seed to wheat is prohibited as constituting adulteration, and the mixing of spoiled or sprouted grain in any amounts, regardless of whether or not they pass grades, is an adulteration under the law and will be contested.

"The department expresses the hope to have your cordial support in order to have a better quality of wheat, with a corresponding increase in the value of the Kansas product in the markets of the world.

Very truly yours, S. J. CRUMBINE, M. D., *Secretary.*"

Complaint has also come to the department of the habit many wheat thrashers have of so manipulating the screens as to retain the weed seed, or much of it, thereby adding to the weight of the thrashed product, upon which their fees for thrashing are based. Accordingly, a circular letter to the wheat thrashers was duly sent to all those whose names could be secured, of which the following is a copy:

"TOPEKA, KAN., July 8, 1912.

"To Wheat Thrashers of Kansas:

"Repeated and continuous complaint comes to this department of the large amount of weed seed found in all kinds of grain, especially in wheat, where its presence lowers the quality of the wheat and requires the extra labor of its removal before being ground into flour, all of which is taxed up to the cost of the finished product, and the ultimate consumer of bread pays the bill.

"The standards under the Kansas food and drugs law do not permit the presence of weed seed or other foreign matter in 'significant quantities,' which in effect means that if weed seed is present in 'significant quantities' it will be considered an adulteration.

"After a thorough investigation of the matter, and after ascertaining what rules have been adopted in other states governing the maximum amount of weed seed or other foreign matter that would be considered an adulteration, it has been determined that a very liberal estimate would be not over one-half pound to the bushel. I understand that with proper

screens, which are available, practically all the weed seed can be eliminated in thrashing; that being true, it is your manifest duty to see that it is done.

"You are therefore officially notified that any grade of wheat containing more than one-half pound of weed seed or other foreign matter to the bushel will be considered an adulteration, and action will be taken accordingly, where information comes to our notice.

"The addition of weed seed, or other kinds of grain, to any grade of wheat is prohibited under the law as constituting adulteration, or the mixing of spoiled or sprouted grain to good grain in just such amounts as to pass grain inspection is prohibited.

"The department expresses the hope that it may have your cordial support in an effort to have a better quality of wheat, with a corresponding increase in the value of the Kansas product in the markets of the world. Very truly yours, S. J. CRUMBINE, M. D., *Secretary.*"

These two letters occasioned considerable comment, as well as a good deal of opposition by a good many grain men, including the secretary of the Kansas Grain Dealers Association. Designing politicians, also, tried to use these letters for base political purposes, endeavoring to construe them to mean an attack upon farmers. While no prosecutions have thus far been brought, yet the agitation itself has been highly educational, and I am led to believe constraining in its effect, judging from the report of numerous grain men who are in position to know of the improved condition of the grains coming onto the market. I believe that another season should see the active enforcement of the law in this respect, taking into consideration, of course, as the department always endeavors to do, the circumstances and conditions under which the special grain in question is produced.

The chief food and drug inspector attended the Association of National and State Food and Drug Control Officials at Seattle July 9 to 12. Two of the most important questions discussed were a proposed uniform cold-storage law and the physical inspection of people in food-manufacturing establishments. The committee having in charge the presentation of a model cold-storage law was continued, with instructions to submit a copy of a model law to all food and drug officials by December 1 of this year, in ample time to present to their respective state legislatures. It is therefore proposed to offer this model law to the Kansas legislature this winter, which I trust will receive the approval of the Board.

The question of the physical inspection of employees in food-producing establishments is one to which I called the Board's attention at the annual meeting, indicating that preliminary correspondence had taken place with the great packinghouses of the state looking toward bringing about such inspection, and I had then received the tentative promise from one or two of the packing establishments that they would undertake such an examination.

Since that time negotiations have continued, and I am glad to announce that all of the packinghouses of Kansas City and Topeka have signified their willingness, not only to examine all employees handling food products for tuberculosis, but to include in such examination symptoms or evidence of any other communicable disease. Recently a conference was held with examining physicians of these great packing plants, and a uniform agreement was reached as to just what the physical examination should include, and a uniform blank drafted that should be used by all packinghouses. Attached to this report is a copy of this blank, which is shown at top of following page.

I think it is a matter of congratulation to Kansas to know that we are again the first state to exact and to bring to an actuality this important matter of the physical examination of those handling meat products in packinghouses. This matter is also submitted for your approval.

Department.....	Check.....				
Name.....	Age.....	W. C.....	Sex.....	M. S. W.....	
Residence.....	Nationality.....				
Family history—T. B. negative or.....					
Personal history—T. B. negative or.....					
Personal appearance—C. O. D.....	Phys. Cond. G. O. P.....				
Year.....	1912.	1913.	1914.	1915.	1916. Chest—negative or
Date.....					
Pulse.....					
Resp.....					
Temp.....					
Height.....					
Weight.....					G. U.—negative or
Skin.....					
Hands.....					
Eyes.....					
Lymph.....					
Remarks.....					

M. D.

The committee on food and drug standards will submit for your consideration other matters pertaining to this division of the Board's work.

DIVISION OF WATER AND SEWAGE.

On August 23 Prof. William C. Hoad, engineer for the State Board of Health, sent to me the following communication:

"LAWRENCE, August 23, 1912.

"Dr. S. J. Crumbine, Secretary State Board of Health, Topeka:

"DEAR DOCTOR CRUMBINE—I hereby tender to you my formal resignation as engineer of the State Board of Health, to go into effect on September 1, 1912, on which date my present connection with the University of Kansas will cease. Sincerely yours, W. C. HOAD."

Prof. Grandville R. Jones, a man of wide experience in the supervision of public water supplies, was secured by the University to fill the place vacated by Professor Hoad on the University faculty, with the understanding that his entire time is to be devoted to the State Board of Health work. He was therefore given a temporary appointment as engineer by the secretary, pending the next regular meeting of the State Board of Health, and it is therefore recommended that his temporary appointment be confirmed.

Mr. C. A. Haskins, assistant engineer, still continues in that position, with the same conspicuous ability he has displayed during the past year.

The sanitary survey of the Missouri river, under the joint auspices of the Kansas State Board of Health and the United States Public Health Service, has been completed and the data is in the hands of Dr. J. A. McLoughlin, assistant surgeon of the Service. It is confidently expected that a published report of this work will be forthcoming in the near future.

Early in August an epidemic of typhoid fever was reported from Ellis, whereupon our assistant engineer was requested to make a survey of the sanitary conditions of Ellis, with special reference to the city water supply and the water supply used at the roundhouse and Union Pacific hotel. Most of the cases of typhoid fever occurred among the employees of the roundhouse, which led to the suspicion that the water used from the Union Pacific well was polluted. Analyses of the water and the result of Mr. Haskins' investigation proved that both the Union Pacific well and the city supply were contaminated, whereupon the following orders were issued to the Union Pacific Railway Company and to the mayor of Ellis:

TOPEKA, KAN., August 12, 1912.

"Water Service, Union Pacific Railway Co., Ellis, Kan.:

"DEAR SIRs—I have before me the report of our bacteriologist and chemist of the State Water Survey upon samples of water secured from the U. P. well and tap water from the U. P. hotel by our assistant engineer, Mr. Haskins, which reports this water to be highly polluted.

"I am advised also that you have at times, at least, been pumping water direct from the creek, which is highly polluted from sewage, and which in all probability accounts for the typhoid fever which has broken out among roundhouse employees.

"Under the authority vested in me under the water and sewage law, you are herewith notified that you must cease to pump water direct from the creek that is served to the hotel, or that is used for watering railroad trains, and that immediate means be taken, if not already under way, for supplying the railroad trains and the U. P. hotel, as well as your roundhouse employees, with a safe and wholesome water.

"Please to acknowledge receipt of this letter and indicate what steps have been taken to carry out this order.

Yours very truly, S. J. CRUMBINE, M. D., *Secretary.*"

TOPEKA, KAN., August 12, 1912.

"To the Honorable Mayor, Ellis, Kan.:"

"DEAR SIR—I have before me the report of the bacteriologist and chemist of the State Water Survey upon an analysis of water from the city wells, also from the U. P. well, secured by our assistant engineer, Mr. Haskins, which is to the effect that both of these wells are highly polluted. Mr. Haskins informs me that surface drainage has free and ready access into the city well, and that the Union Pacific Railroad Company has been pumping water direct from the creek into their supply, which latter condition is, in all probability, the source and occasion of the typhoid fever that has broken out among the railroad roundhouse employees.

"Under the authority vested in me by the water and sewage law, an order is herewith issued that your city must proceed without delay to cement or in some other effective way protect the city well from the possibility of further surface pollution. Your engineer can readily point out to you the best way in which this can be done.

"Please to acknowledge receipt of this letter and advise what steps you have taken in the matter.

Yours very truly, S. J. CRUMBINE, M. D., *Secretary.*"

An epidemic of typhoid fever having appeared also in Caldwell, where there was a suspicion that the public supply was at fault, an investigation was made by our assistant engineer and later by our present engineer, Mr. Jones; the examination of the city water seemed to clearly indicate its being polluted, whereupon it was decided to install the hypochlorite emergency treating plant for the purpose of purifying the city supply. This was done, together with the condemnation of some of the private wells in use, the analysis of the waters of which indicated pollution, since which time no further cases of typhoid fever have appeared.

The following order was issued to the city authorities of Caldwell:

TOPEKA, KAN., September 11, 1912.

"Hon. J. M. Morton, Mayor, Caldwell, Kan.:"

"DEAR SIR—I have before me the report of our Assistant Engineer, Mr. Haskins, upon the condition of your public water supply in its relation to the epidemic of typhoid fever now prevailing in your community. The evidence against the city water seems to be such as to warrant some immediate steps being taken to purify the same and protect your citizens in order that the epidemic may be abated.

"I have, therefore, requested that our emergency hypochlorite plant be taken to your city and immediately installed for the purpose of purifying the water. It is understood, of course, that the expense incident thereto must be borne by your city, and that the installation of plant is merely an emergency of a temporary nature until such time as your city may set about to improve or to secure a new water supply, or the installation of a permanent hypochlorite treating plant.

"You are, therefore, requested to proceed without further delay to arrange for the betterment of the city water supply to the end that your

citizens may be served with a safe and wholesome domestic supply at the earliest possible moment.

"Please to acknowledge receipt of this letter with a statement as to your purpose in the matter.

Very truly yours,
S. J. CRUMBINE, M. D., *Secretary.*"

Other orders have been issued under the authority vested in the department by the water and sewage law, which orders are self-explanatory, and are herewith submitted, with the recommendation that they receive your approval:

"TOPEKA, KAN., November 1, 1912.

"*Mayor and Council, Clay Center, Kan.:*

"GENTLEMEN—I have before me the report of our assistant engineer, Mr. Haskins, on an inspection made of your water plant recently.

"Also report of the water analyst on the result of the analyses of samples secured by Mr. Haskins, which examination shows the water to be rather highly polluted, and indicates that the suggestions of Mr. Haskins should be immediately carried out.

"Therefore, by virtue of the authority vested in the State Board of Health under the water and sewage law, it is ordered that the city proceed without delay to have the joints in the masonry of the big well pointed up, and to plaster it with a layer of rich cement plaster. That the ground around the big well be leveled off, and that a ditch with sufficient capacity for carrying off an ordinary amount of storm water should be dug around the large well and past the driven wells to the bank of Huntress creek, to prevent the possible overflow of these wells by surface water during times of storm.

"May I have your assurance that this will be done, or that it has been done?

Yours very truly,
S. J. CRUMBINE, M. D., *Secretary.*

"TOPEKA, KAN., October 24, 1912.

"*Mayor and Commissioners, Fort Scott, Kan.:*

"GENTLEMEN—I have before me the report of our engineer upon investigation of a water supply and sewage system for your city, which, as you already know, is in such condition as should not longer be tolerated.

"The public water supply of your city has long been a question of considerable concern, not only to the citizens of your city, as indicated by repeated complaints to this department, but by the department itself, after a number of inspections by our former engineer, Prof. Wm. C. Hoad.

"The condition of the Marmaton river, which now seems to contain only the sewage from your city, is one that is liable to cause the city considerable embarrassment if not great expense in the future, for in my judgment the city might be held civilly liable to farmers who have hitherto used this source as a supply for their cattle, and in a number of instances I understand this is their only source of supply.

"I am only mentioning these facts because they are real possibilities, as other cities have at various times and places been up against this same proposition.

"I desire to urge in the strongest possible way that your people proceed without unnecessary delay to a serious consideration of these two important problems, and that the recommendations made by our engineer to your city health officer in regard to the treatment of your present city water supply be adopted with the least possible delay.

"May I have your early assurance that some such action will be taken?

Yours very truly,
S. J. CRUMBINE, M. D., *Secretary.*

"TOPEKA, KAN., August 15, 1912.

"To the Honorable Mayor, Mulvane, Kan.:

"DEAR SIR—I have before me the report of our assistant engineer, together with report of the analysis made by the State Water Survey on the condition of the city water supply, which shows that from some source the water is grossly polluted. It is recommended that the Santa Fe cesspool be discontinued by ordinance of your city, and that the inside of the city wells be plastered with a good rich coat, at least one-half inch thick, of neat cement plaster.

"Kindly acknowledge receipt of this letter and advise what steps you have taken in the matter.

Very truly yours,

S. J. CRUMBINE, M. D., *Secretary.*"

"TOPEKA, KAN., November 1, 1912.

"To the Honorable Mayor, Russell, Kan.:

"DEAR SIR—I am enclosing herewith copy of a letter received from our engineer, Professor Jones, which is self-explanatory.

"I trust that your waterworks superintendent will have official instructions to very carefully and conscientiously carry out the directions for the operation of the plant as laid down by our engineer.

"In a personal conversation the engineer advises me that he is of the belief that if the plant is properly operated you ought to get a very satisfactory water for domestic purposes.

"If the department can be of any further service to you in the matter please to advise us.

"Containers will be sent up there sometime in the near future for securing other samples in order to determine what improvement, if any, has taken place in the water.

Yours very truly,

S. J. CRUMBINE, M. D., *Secretary.*"

The application of the city of Hutchinson for permission to discharge untreated sewage from their new sewer extensions into Cow creek was denied, for the reason that the State Board of Health has issued an order against the city of Hutchinson, requiring them to purify the discharge of sewage into Cow creek, which has not yet been complied with, and such permission at this time would be contrary to the original order. Copy of this letter denying such permission follows herewith:

"TOPEKA, KAN., November 13, 1912.

"Mayor and Commissioners, City of Hutchinson, Kan.:

"GENTLEMEN—Your application to discharge untreated sewage into Cow creek from the new extension sewers has been received, and upon conference with our engineer we are of the opinion that permission should be withheld until the order of the State Board of Health upon your city for the purification of the sewage now being discharged into Cow creek has been complied with.

Yours very truly,

S. J. CRUMBINE, M. D., *Secretary.*"

Moreover, the sanitary condition of Cow creek does not justify further burdening the stream with the discharge of untreated sewage. It is recommended that this denial be also approved.

Further details of the work of this division will be made by our engineer in his report.

DIVISION OF VITAL STATISTICS.

The work of the division of vital statistics is proceeding, under the able direction of the state registrar, Mr. W. J. V. Deacon, in a very satisfactory manner. Mr. Deacon has recently completed his first year's statistics, which indicate the death rate in Kansas to be 10.32 per thousand and the birth rate to be 20.73 per thousand. These figures are sufficient refutation against the slanderous statement circulated by the

whisky interests to the effect that race suicide in Kansas is due to the prohibitory law.

It is believed we are getting most of the deaths registered, on account of the burial permits, but a considerable proportion of the births still remain unregistered. However, I think it can be confidently considered that the birth rate in the state is at least two and one-half times greater than the death rate. A number of prosecutions have been made for the violation of the vital statistics law, and a number of other cases have recently been tried and are still pending.

COMMUNICABLE DISEASES.

During the summer a widespread epidemic of horse plague occurred through central and western Kansas, and a great many complaints came to this department concerning the proper disposal of dead animals, whereupon the following circular letter was issued to county health officers:

"TOPEKA, KAN., August 31, 1912.

"To County Health Officers:

"GENTLEMEN—There seems to be an extensive epidemic among horses in the western counties, the nature of which is not yet fully determined, but probably of an infectious character closely related to meningitis.

"In many communities these animals are allowed to remain where they die, or are hauled out onto commons or pastures to be disposed of by coyotes or vultures. Indeed, the practice of throwing dead animals on city dumps or pastures without proper disposal is only too prevalent throughout the entire state, and I invite your attention to section 2829 of the General Statutes of 1909, which makes such action a misdemeanor.

"I wish you would be so good as to give public notice in all your county papers requiring the immediate destruction, either by burning or burial, of all dead animals. This is particularly important in the case of the epidemic now prevalent among horses, as it is very likely due to some infectious agent which might be easily carried by dogs or birds, and thus the lives of other animals be endangered.

"I am also inviting your attention to the tuberculosis compulsory notification law, and urgently request that all cases reported to you be immediately registered and the original card forwarded to this office. Requisitions for supplies will not be honored until cases are properly registered in conformance with the law, and health officers should not O. K. requisitions unless the cases have first been formally reported, recorded, and the originals sent to this office.

"I trust you will also in the most emphatic manner insist that cases of tuberculosis occurring in your county be immediately reported by the attending physician. The department is checking up all deaths from tuberculosis, and certainly will hold physicians to account where we find these cases have not been properly reported.

Yours very truly, S. J. CRUMBINE, M. D., *Secretary.*"

Subsequent reports were to the effect that as a rule these dead animals, which totaled large numbers, were satisfactorily disposed of by either burning or burying.

Since the inauguration of a check system by which deaths from tuberculosis are checked back to determine whether or not they have been reported, we find that the reporting of this class of diseases has been greatly increased. This, together with the very efficient work done by Doctor Sippy and Doctor Kenney during the early part of the year, has been the means of stimulating the physicians to greater caution in promptly making their reports. It becomes increasingly evident, however, that there will have to be a number of prosecutions made here and there over the state before we will be able to convince some physicians, at least, that the State Board of Health is seriously in earnest in its endeavor to enforce the provisions of the tuberculosis notification law.

Our statistician, Mr. Deacon, has recently compiled a table of comparisons on certain diseases occurring in the registration area with the same diseases that occurred in Kansas during the past fiscal year. This comparison is exceedingly interesting, and is a very favorable one to Kansas, with one single exception, which is in the case of typhoid fever, where the ratio of deaths from that disease, in comparison with the total number of deaths in the registration area, is 1.6 per cent as compared to the Kansas rate of 2.5 per cent, although in each instance they stand as No. 10 in the list.

This table is herewith given for the purpose of having a permanent record, and is as follows:

A COMPARISON.

A study of the 805,000 deaths reported to the U. S. census in 1910 shows that above 67 per cent were attributed to 10 causes.

In Kansas the last year but 62.8 per cent were attributed to these same causes.

Disease.	Report.	Per cent.	Relative rank.
Tuberculosis (all forms).....	Census	10.7	1
	Kansas	6.8	5
Pneumonia	Census	9.9	2
	Kansas	7.9	4
Organic heart disease.....	Census	9.5	3
	Kansas	8.7	1
Violence	Census	7.1	4
	Kansas	8	3
Enteritis, etc. (under 2 years).....	Census	6.7	5
	Kansas	4.6	9
Bright's disease	Census	6.6	6
	Kansas	5.3	8
Cancer	Census	5.1	7
	Kansas	5.5	6
Cerebral hemorrhage	Census	5.1	8
	Kansas	5.4	7
Early infancy	Census	5	9
	Kansas	8.1	2
Typhoid fever	Census	1.6	10
	Kansas	2.5	10

Your secretary acknowledges that Kansas ought to be ashamed to have a higher death rate from a preventable disease, such as typhoid fever, than obtains in the registration area, but this again emphasizes the necessity and the importance of having the services of a trained epidemiologist, whereby we might investigate the source and dissemination of epidemic diseases, which up to the present time receives but little investigation because of the lack of ways and means.

In this connection I desire to report that the typhoid carrier reported from Marion county in my annual report has apparently been cured by the operation performed for closing the biliary fistula, as indicated by negative findings in the feces and urine that have been examined since that time, and thus the history of one of the most unique chronic typhoid carriers in all literature is closed. For a detailed report of this case I refer the members of the Board to the October BULLETIN.

ANTITYPHOID INOCULATION.

As indicated last year, offers were made to the three state educational institutions at Manhattan, Emporia and Lawrence to supply typhoid bacterins for the purpose of antityphoid inoculations, free of cost, to all the students who desire such inoculations. Last year there were 42 that took these inoculations at Emporia, and something over 100 at the University. This year a similar proposition has been made to these institutions, but up to the present time only Kansas University has responded, with something like 130 inoculations having thus far been made.

An attempt is being made by several members of the medical faculty of the School of Medicine to determine whether immunity has been established in those having received the inoculations last year. It is thought some interesting data may thus be secured, which will be reported at a subsequent meeting.

There have been 70 cases of poliomyelitis reported thus far during 1912, the greatest number of cases having occurred at Fort Scott and Emporia.

No other epidemic disease of magnitude has invaded the state since our last meeting, and from all reports it would seem as if the condition of the health of the state was never better than at the present time.

At our annual meeting an incomplete report was made by Professor Sherwood on the work being done as regards the water served on railway trains in this state for drinking purposes, and upon motion of the Board this work was ordered to be continued until it was completed. The work has been completed and report of the same is on file in the office of the secretary. It will perhaps be sufficient to give a summary of the conclusions arrived at in the study of the analyses of these samples of water. [Summary sheets in report.]

From the analyses of the water that is used as a source of supply in filling the drinking tanks in the railway trains in this state, we found in every case—with a possible exception at Ellis, Kan., where the Union Pacific supply was found to be polluted—that the water thus supplied was a wholesome water. It was therefore concluded that the contamination of the waters in the tanks, as indicated by analyses of the samples, was the result of polluted or impure ice and a lack of proper methods for cleaning the ice coolers.

The result of the investigation indicates that one-third of these waters is unsafe to drink and is a menace to the health, and therefore sufficient warrant for the State Board of Health to formulate and publish an order, by reason of the authority conferred upon the Board under section 8030 of the General Statutes of 1909, and it is therefore recommended that the Board at this time issue such an order as will safeguard the public health and insure a wholesome water supply being furnished to passengers riding on trains in this state.

Recently the secretary of the Washington State Board of Health honored the department by a personal visit, which was made for the purpose of inquiring into the relations and the manner of conducting the work of the department in conjunction with the University and Agricultural College. He was highly pleased with the arrangement, and thought that Kansas held a unique position, which in his judgment would eventually be followed by most of the other states, particularly those states where it is impossible to secure large enough appropriations to carry on their own work efficiently.

We regret that we have lost our president, but we are glad to have appointed in his place a man who has shown his capacity for efficient public-health work, such as Doctor Hunt has shown as city health officer of Emporia. I am sure the Board joins with me in extending our hearty felicitations.

Respectfully submitted.

S. J. CRUMBINE, M. D., *Secretary.*

**MINUTES OF THE FIRST QUARTERLY MEETING OF
THE STATE BOARD OF HEALTH,**

HELD AT MANHATTAN, KAN., NOVEMBER 15, 1912.

The first quarterly meeting of the State Board of Health was held at Manhattan, Kan., November 15, 1912, the opening session being held in the office of the president of the State Agricultural College. Upon roll call the following members of the Board were present: Dr. D. O. Walker, Dr. V. C. Eddy, Dr. Charles H. Lerrigo, Dr. W. D. Hunt, Dr. B. J. Alexander, and Dr. M. F. Jarrett.

A quorum being present, the Board was called to order by Vice President Eddy. The president, Doctor Oldrich, not being present (his time having expired), Dr. W. D. Hunt was appointed a member of the Board in his place.

The secretary read the minutes of the annual meeting, which upon motion were approved.

The report of the secretary was then read, whereupon the recommendations of the secretary were taken up for discussion, among which were the following:

The approval of the appointment of Prof. Grandville R. Jones as engineer for the State Board of Health, following the resignation of Prof. W. C. Hoad, was unanimously adopted.

The orders of the Board issued under the water and sewage law were unanimously approved.

The proposed budget recommended by the secretary for the next biennium was unanimously approved.

The circular letters sent to grain dealers and threshers in the state were approved.

The blank to be used in the physical inspection of packing-house employees was also approved.

On recommendation of the secretary, the action of the State Board of Health on the question of vinegar taken at its annual meeting was rescinded.

The engineer, Professor Jones, then made his report for the division of water and sewage, and also read the report of his predecessor, Professor Hoad, covering the work done for the past year. Upon motion, the engineer was authorized to issue a circular letter addressed to city engineers, calling their attention to the requirements of the water and sewage law in that the plans for extension of sewer systems must receive the approval of the State Board of Health before such extensions are made, as well as the new installation of waterworks or sewer systems. The design of the circular letter is to bring about a better enforcement of the water and sewage law.

Upon motion, the engineer was instructed to confer with the School of Law at the University for the purpose of codify-

ing the laws relating to sewage disposal for cities of the first class, and to draw up a bill for presentation to the legislature which will authorize cities of the first class to issue bonds in certain stated amounts for their sewage construction and sewage disposal.

An informal discussion was then engaged in concerning the matters of sewage disposal and water supply for the city of Fort Scott. It was thought that unless the city took some steps very soon to improve conditions along these lines that the State Board of Health would be obliged to issue an order to the city compelling them to take some action for bettering the sanitary conditions.

The Committee on Food and Drug Standards made a report of progress and discussed informally the question of a change in our standards on mincemeat, and also the market conditions of Graham flour and of cove oysters. It was agreed that the standard for oysters should include the standard for cove oysters.

The special committee previously appointed by Vice President Eddy, upon the recommendation of the secretary, that in view of the findings from the investigation of the water supplied to the traveling public on railway trains and in railway stations that the railway companies be required to cool the water in some other manner and by some other method than by adding ice directly to the water, then made report in the shape of a resolution, which was, upon vote, unanimously adopted, and the secretary was instructed to present the same to the attorney-general for approval as to its legal form, after which it is to be printed in the official state paper and notices served to all the railway companies operating in this state.

The resolution adopted read as follows:

At a regular meeting of the State Board of Health, held at Manhattan, Kan., November, 15, 1912, the following resolution and order were unanimously adopted and ordered printed in the official state paper:

"WHEREAS, By order of the Kansas State Board of Health an examination made of the water supplied to the public for drinking purposes by the railroads of this state on their trains and in their passenger stations has disclosed the fact that a considerable number of the samples indicated that water so supplied was unfit for drinking purposes;

"AND WHEREAS, Upon further examination it was found that the water used in furnishing the trains for such purposes was unsuitable for drinking purposes;

"AND WHEREAS, The method of icing the water coolers on trains and in passenger stations in this state is such as to insure rather than prevent the contamination of the drinking water: therefore, be it

"Resolved by the Kansas State Board of Health, That in its opinion the only way that purity of water served for drinking purposes in trains and passenger stations can be assured as free from pollution by ice is to prevent the water from coming into direct contact with ice. It is therefore by said Board ordered that on and after July 1, 1913, no railway company and no officer or employee of any railway company, or any other person, shall cause or allow any ice to be placed in or come into contact with any water which is served for drinking purposes upon railway trains or in passenger stations.

"It is further ordered by the Board that all drinking-water receptacles and coolers in passenger trains be thoroughly cleansed by said railway company and persons in charge of the cars containing said water receptacles and coolers at all terminal stations where and whenever such cars are cleaned.

"It is further ordered that this order be published at once in the official state paper."

Upon motion it was recommended that the engineer and assistant engineer go to Springfield, Mo., for the purpose of investigating the new Imhauf tanks being built there for sewage disposal.

By reason of the fact that the president elected at the annual meeting was no longer a member of the Board, the Board then proceeded to the election of a new president, whereupon the vice president, Dr. V. C. Eddy, was elected president of the State Board of Health. This election left a vacancy in the vice presidency, whereupon Dr. D. O. Walker was elected as vice president of the Board for the ensuing term.

No other business appearing, upon motion the Board adjourned.

The following bills were audited and allowed:

Doctor Alexander	\$20.14
Doctor Jarrett	23.35
Doctor Eddy	33.84
Doctor Lerrigo	14.94
Dr. O. D. Walker	16.50
Doctor Hunt	24.95
Professor Bailey	7.05
Professor Sayre	8.78

REPORT OF THE SECRETARY.

THE SECOND AND THIRD CONSOLIDATED QUARTERLY MEETINGS OF THE STATE BOARD OF HEALTH, HELD IN THE OFFICE OF THE SECRETARY, MARCH 28, 1913.

Mr. President and Members of the State Board of Health:

Two faces of former members of the State Board of Health are missing to-day, our distinguished and respected colleagues, Doctors Jarrett and Reynolds. These two men, while serving but one term as members of the State Board of Health, have won the respect and admiration of the Board and the gratitude of the secretary. They have always shown a deep interest and a broad and comprehensive insight into the work of the department, and have been generous to a degree in their sympathy and support of the administration of the work. In their places we welcome two new faces, Dr. J. S. Cummings, of Bronson, and Dr. Jessie T. Orr, of Olathe. We have had enough advance information concerning them to warrant the belief that the places will be ably filled and that the State Board of Health will not lack enthusiastic support and courageous work in the advancement of the interests of public health in this state.

My very good friend Doctor Cummings has already shown the kind and quality of the plentiful amount of iron which goes to make the red blood in his veins. His courageous stand in the recent legislature for the things that are right in public-health matters, as well as in medical education, entitles him to the hearty thanks of every lover of his fellows in this state.

I am sure the State Board of Health joins with the secretary in welcoming to the councils of the department a woman with womanly instincts and with those instincts trained by a medical education. I am glad that the governor has honored himself by appointing Doctor Orr to this position of honor, and I am certain that we will all be helped by her good advice and cordial cooperation.

GENERAL.

The work of the department since our last quarterly meeting has proceeded without any unusual events worthy of record. There have been no unusual epidemics of a severe character, but, to the contrary, the general health of the people throughout the state has been, I believe as a whole, better than in previous years, present population considered.

It is inevitable that in the enforcement of law enemies are made, for human nature is so constituted that a kindly feeling is not engendered by prosecution, even though the prosecution be merited, and so it happens that during the past five years in the enforcement of the food and drugs act we have been honored in accumulating a rather noteworthy list of those who are inclined to criticise the department in the administration of its affairs. When a condition of enemies without exists, and is united with enemies within one's own department, it makes for considerable mischief, and so we have had the unusual spectacle of a "tempest in a teapot" during the recent legislative session, whereby the food adulterators, joining hands with a Judas of the department, made an attempt to reorganize the State Board of Health, providing that certain food interests should be members of the Board to dictate the policies of the department and be both judge and jury upon their own products. This movement was thwarted, chiefly through the instrumentality of the three

House physicians, who made very plain to the members of the legislature the meaning of the proposed reorganization, whereupon the vast majority of the legislature promptly killed the proposed reorganization scheme. The enemies of pure foods, however, continued in their work, and finally proposed an investigation which, as the whole country knows, resulted in their discomforture and in the complete exoneration of the department. The committee, after a thorough and painstaking investigation, were unable to discover so much as a ten-cent piece out of place, and practically endorsed the work of the department from beginning to end, thus strengthening our hands in such a way as they have never been strengthened before, and putting to shame the enemies of pure foods and of sick people and little children.

It is my regret to announce that these aforesaid enemies were in such a powerful position in the House Ways and Means Committee as to seriously cripple our budget for the coming biennium, but outside of that fact no harm has come, but, to the contrary, the work of the department has been stimulated and energized to an extent it has never been before, and henceforth we shall vigorously and uncompromisingly enforce the provisions of the Kansas food and drugs act. We bespeak your cordial cooperation in this direction.

RAILROAD SANITATION.

The order of the State Board of Health to the railroad companies doing business in this state, made at its last quarterly meeting, with reference to providing water coolers in coaches of such a type that the water contained therein will not come in contact with the ice, has been sent to each railroad company and to the Pullman Company, and I understand measures have already been taken on a number of the roads to comply with the order on or before July 1, 1913.

On January 25 of this year the Treasury Department of the Federal Government issued the following order:

"Article 3, General Regulations, is hereby amended by the addition of the following paragraph:

"PARAGRAPH 15. Water provided by common carriers on cars, vessels or vehicles operated in interstate traffic for the use of passengers shall be furnished under the following conditions:

"(a) Water shall be certified by the state or municipal health authority within whose jurisdiction it is obtained as incapable of conveying disease; provided, that water in regard to the safety of which a reasonable doubt exists may be used if the same has been treated in such a manner as to render it incapable of conveying disease, and the fact of such treatment is certified by the aforesaid health officer.

"(b) Ice used for cooling such water shall be from a source the safety of which is certified by the state or municipal health authority within whose jurisdiction it is obtained, and before the ice is placed in the water it shall be first carefully washed with water of known safety, and handled in such manner as to prevent its becoming contaminated by the organisms of infectious or contagious diseases; provided, that the foregoing shall not apply to ice which does not come in contact with the water which is to be cooled.

"(c) Water containers shall be cleansed and thoroughly scalded with live steam at least once in each week that they are in operation.

FRANKLIN MACVEAGH, *Secretary.*"

At about this time the Secretary of the Treasury appointed a commission for the purpose of establishing standards for the purity of waters served in interstate traffic, and your secretary has the honor to be a member of said commission. As soon as such standards are established the State Board of Health, in connection with the water laboratories at the University, expects to take up the question of a thorough bacteriological and chemical analysis of all water supplies used upon interstate car-

riers, as well as to make a sanitary survey of the conditions surrounding such supplies. The certificates to be given railroads, as required in the Treasury Department's order, will be based upon such examination and survey.

I think it is entirely appropriate to say at this point that it is my belief that it was the work of this department last spring in the investigation of the water supplies furnished on trains in this state, a report of which was made at the International Congress of Hygiene and Demography, which led to some investigations by the Public Health Service and finally to the issue of the above order. Thus Kansas has again led the way among noteworthy sanitary reforms.

The following letter received from the surgeon general of the Public Health Service is self-explanatory:

"WASHINGTON, February 7, 1913.

"Dr. S. J. Crumbine, Secretary State Board of Health, Topeka, Kan.:

"DEAR DOCTOR—In compliance with section 3 of the act entitled "An act granting additional quarantine powers and imposing additional duties upon the Marine Hospital Service," approved February 15, 1893 (copy herewith), the Secretary of the Treasury has from time to time promulgated amendments to the Interstate Quarantine Regulations. These regulations have to do with the sanitation of interstate carriers. It is the policy of this Bureau to recommend to the Secretary for promulgation additional amendments as the necessity therefor arises. In view of the fact that each of the states has power to issue rules and regulations bearing on the sanitation of intrastate carriers, it would seem wise to bring about a uniformity between the regulations governing the sanitation of interstate and intrastate common carriers. This will work to the ultimate good of passengers on common carriers and those residing along rights of way and navigable waters, and because of the justice to the common carrier which will result from a single set of regulations, a readier and more complete compliance therewith will be effected. It is therefore recommended that your Board consider the question of promulgating regulations governing intrastate carriers which are exactly similar to those governing interstate carriers. This plan has already been adopted by some of the state boards of health. Copies of the amendments already promulgated by the Secretary of the Treasury are inclosed.

If your Board accepts my recommendation in this matter, I will appreciate it if you will so inform me.

Respectfully, RUPERT BLUE, *Surgeon General.*

COMMON DRINKING CUPS AND COMMON TOWELS.

Final date for compliance with amendments of October 30 and December 9, 1912, to the Interstate Quarantine Regulations.

TREASURY DEPARTMENT, OFFICE OF THE SECRETARY.
WASHINGTON, December 19, 1912.

1912.—Department Circular No. 59, Public Health Service.

To Medical Officers of the Public Health Service, State and Local Health Authorities, and others concerned:

The final date for compliance with paragraphs 13 and 14, article 3, General Regulations, Interstate Quarantine Regulations, is hereby fixed at March 1, 1913.

The paragraphs in question read as follows:

"PARAGRAPH 13. Common carriers shall not provide in cars, vehicles, vessels or conveyances operated in interstate traffic, or in depots, waiting rooms, or other places used by passengers traveling from one state or territory or the District of Columbia to another state or territory or the District of Columbia, any drinking cup, glass or vessel for common use; provided, that this regulation shall not be held to preclude the use of drinking cups, glasses or vessels which are thoroughly cleansed by washing in boiling water after use by each individual, nor shall it be held to preclude the use of sanitary devices for individual use only.

"PARAGRAPH 14. Common carriers shall not provide in cars, vehicles, vessels or conveyances operated in interstate traffic, or in depots, waiting rooms, or other places used by passengers traveling from one state or territory or the District of Columbia to another state or territory or the District of Columbia, any towel for use by more than one person; provided, that towels may be used again after having been sterilized with boiling water."

FRANKLIN MACVEAGH, *Secretary.*

I replied to the surgeon general that the matter would be laid before the Board at our next meeting. The regulations referred to in the surgeon general's letter are herewith appended. It should be noted that they apply to the abolishment of the common drinking cup and the roller towel as well as to the order under date of January 25 concerning the purity of water. Fortunately for Kansas, all of these matters had been covered in subsequent orders applying to the intrastate carriers as well as to the interstate carriers, and it was my good pleasure to thus notify the surgeon general. If there are any further communications the Board desires to make to the surgeon general in this connection, I will be glad to be advised thereof.

WATER AND SEWAGE.

The following letter was sent to the general manager of the Santa Fe Railway Company:

"TOPEKA, KAN., January 20, 1913.

"Mr. C. W. Kouns, General Manager A. T. & S. F. Rly. Co., City:

"DEAR SIR—For several years we have been trying to discover the source of the pollution of the Lawrence water supply, and have been somewhat mystified about the matter, inasmuch as it is a ground-water supply which is pumped into surface reservoirs for the purpose of treating it with chemicals to remove the large amount of iron which it contains. Bacterial examinations of the water show almost continually a polluted condition, at some times to such an extent as to be dangerous, judging from the high bacterial count and the presence of the colon bacillus.

"You will probably remember that these reservoirs are very close to the Santa Fe tracks west of Lawrence, and we have concluded that this pollution comes from the tracks, or from the trains passing, for naturally the trains cause considerable commotion in the atmosphere, picking up roadbed dust, or sifting out dust from the cars, particularly from stock trains. When the winds are in the south this dusty air is naturally carried toward the north, and it is perfectly logical to assume that a considerable quantity of this dust finds its way into the open reservoirs. Probably most of the dust is harmless, but it is easy to see that a very dangerous pollution might thus be carried into the water supply from the polluted roadbed.

"In consideration of the above, I respectfully request that orders be given to the proper authorities operating all trains, both passenger and freight, to see that the toilets are locked on trains going east, at least for a mile east of the Lawrence waterworks, and to remain locked until after leaving the station at Lawrence; and that all trains going west have the toilets locked upon reaching the city of Lawrence, to remain locked until at least one-half mile west of the Lawrence waterworks. Will you kindly advise this department your action in the matter?

"I might add that a movement is on foot to require railroads to equip their passenger trains with some sort of a collecting device to prevent the pollution of the roadbed at any place throughout the state, such recommendation having been submitted to this department. We have returned the same to the state authorities sending it to us, with the statement that it would be a very great burden to the railroads, as there was but one water supply in the state that was seriously in danger of pollution from that source, and that I would immediately take the matter up with you to cover that instance.

"I trust, therefore, in view of the above, that our request as to Lawrence will have your immediate attention.

"Very truly yours, S. J. CRUMBINE, M. D., *Secretary.*"

The following letter in reply, dated January 24, has been received:

"Dr. S. J. Crumbine, Secretary State Board of Health, Topeka, Kan.:

"DEAR SIR—Your letter of January 20 with reference to pollution of Lawrence water supply, and asking coöperation of the railway company in taking precautionary measures to prevent this. Our present instructions contemplate that toilets on all trains, both entering and leaving Lawrence, shall be locked, and I do not believe that porters get around to this before the waterworks is passed in leaving town, and I think they lock them entering town from the west before passing the waterworks. However, special instructions have been issued to insure this being done. Our change of line at Lawrence has placed our track at greater distance from the reservoirs than it was previously, so that the condition should be somewhat improved at present over what it was formerly. For your information will state that we have only one regular stock train via the line between Topeka and Lawrence daily, so that there would not be much trouble from that source, and with the instructions which are in effect covering handling of toilets in passenger trains the trouble should be eliminated.

"You may rest assured that we are always willing to render every assistance within reason to improve sanitary conditions, and while it does not seem that the conditions mentioned can have contributed very largely to the trouble experienced, we are perfectly willing to comply with your request.

Yours truly, C. W. KOUNS, *General Manager.*"

This correspondence is here given for the purpose of recording what seems to be a rather unusual case of water pollution.

Since the last quarterly meeting the following permits have been issued to cities, under the water and sewage law: For the extension of and approval of water supplies, Holton and Burlingame; and for sewer extension, Junction City and Lake Forest.

The engineer will submit a detailed report for his division.

FOODS AND DRUGS.

Since the last annual meeting a hearing has been held on vinegar, the chief complaint made being that other than cider vinegars were being discriminated against by reason of the department's requirement that the retail package or container of all other vinegars than cider vinegar must bear a label indicating the kind of vinegar. It seems to me there is more or less force in this contention, and I submit the matter to the Board for such action as in their wisdom they see fit to take.

The work in this division has proceeded under the skillful direction of the assistant chief food and drug inspector, who will make a personal report.

DIVISION OF VITAL STATISTICS.

The first year's tabulation of reasonably accurate statistics for Kansas has been made, and from this time forward we will be able to make comparison as to what effect the work of the department is having in the reduction of the morbidity and mortality rate of the state.

The last legislature enlarged the work of this division by adding to it the registration of marriages, with a registration fee of fifty cents, which the law provides shall be used for the support of the division's work. This fund will probably for all time to come make the division self-supporting.

We have transferred to the division of vital statistics, on and after the marriage law becomes effective, the morbidity report, to which division they properly belong.

The state registrar will make a detailed report of his division's work.

COMMUNICABLE DISEASES.

The last legislature struck out our item of \$5000 for emergency fund, but placed in lieu thereof an item of \$4500 a year "for original research and investigation into and for the suppression of communicable diseases and industrial occupational diseases." While we regret to lose our emergency fund, we are rejoiced to have available this fund for original research and investigation, as that is, in my judgment, the very meat and essence of public-health work in the control of communicable diseases.

In this connection I desire to speak of the most admirable work done by Dr. J. J. Sippy, the county health officer of Sumner county, who last year made a social and industrial study of tuberculosis in the ten cities of the first class. This work was so ably done, as the older members of the Board will remember, that I most strongly and heartily recommend that the Board avail themselves of his services as epidemiologist for the Board for the purpose of carrying on research and investigation under this item of our appropriation, or that the Board authorize the secretary to secure such epidemiologist as may be available in case Doctor Sippy will not serve.

It is also noteworthy that while the legislature cut the miscellaneous fund of the State Board of Health from \$3000 to \$1500 a year, they provided \$1500 annually "for the purpose of free distribution of antitoxins, serums and vaccines to the indigent poor of the state." We have, therefore, now available a legal and separate fund for the free distribution of antitoxins, which we have desired so many years.

While the legislature crippled us by striking out one of our stenographers and clerks and by reducing our miscellaneous and sanitary funds, yet by making available these two new funds we have been helped to that extent.

REPORTS OF COMMITTEES.

The Committee on Standards has had several meetings on the question of a proper standard for wet and dry mincemeat, and the committee will make its report direct to the Board.

The various committees on the sanitary inspection of state institutions should be readjusted to meet the new personnel of the Board.

THE SUMMER SCHOOL.

It is assumed that the State Board of Health will continue to co-operate with the School of Medicine of the University in the matter of the Summer School for Health Officers and Physicians. The school conducted last year was largely attended and a wide interest was taken in the work. It is confidently expected that a more profitable and interesting session will be held this year. We bespeak the attendance of the membership of the Board at this school, which will be held early in June.

MINUTES OF THE SECOND AND THIRD CONSOLIDATED
QUARTERLY MEETINGS OF THE
STATE BOARD OF HEALTH,

HELD IN THE OFFICE OF THE SECRETARY, TOPEKA, KAN., MARCH 28, 1913.

The State Board of Health met in regular quarterly session at the office of the secretary, March 28, 1913, it being the consolidated second and third quarterly meetings of the Board. President V. C. Eddy presided. Upon roll call all of the members of the Board were present excepting Doctors Thompson and Hunt and Mr. Welch. All were present of the advisory board except Dean Marvin.

The minutes of the last quarterly meeting, held at Manhattan, were read and approved, whereupon the secretary presented his report, which immediately thereafter was taken up for discussion.

Upon motion the secretary was instructed to represent the Kansas State Board of Health at a proposed meeting of the state health officers and the representatives of the railways in the middle tier of states from the Missouri river west, and to act for the State Board of Health in all matters pertaining thereto.

Communications from the Secretary of the Treasury and the surgeon general of the Public Health Service, relating to certain orders of the federal government requiring state or municipal health authorities to certify to the purity of water supplies furnished by interstate carriers, was discussed at some length. The opinion was expressed that the State Board of Health was the only health authority in the state of Kansas that was competent under existing conditions to pass upon the purity of the water supplies of the state, and the division of water and sewage of the State Board of Health was authorized to certify to the railway companies of the state water supplies that would comply with the federal order as to purity and wholesomeness.

Upon motion the secretary was instructed to notify the surgeon general that there were no municipal laboratories in the state equipped in such a manner as to be able to certify to the purity of the local waters served by interstate carriers.

The question of the proper use of the fund appropriated by the recent legislature under the item of \$4500 annually "for original research and investigation into and for the suppression of communicable diseases and industrial and occupational diseases" was taken up, and upon motion it was decided to employ an epidemiologist for the State Board of Health, whose chief business it shall be to investigate the cause, the source

and the method of dissemination of certain infectious diseases, including an epidemiological study of cancer in so far as the funds will permit. Accordingly, Dr. John J. Sippy, of Belle Plaine, was elected to serve as epidemiologist for the State Board of Health at a salary of \$2400 a year, to take effect July 1, 1913.

After the adjournment for luncheon, the Board reconvened at two o'clock p. m., whereupon the engineer made his report covering the work for the past quarter. The following resolution was thereafter unanimously adopted, including the special prefatory report signed by the engineer, which it was ordered should be served upon the mayor and council of the city of Caldwell:

SPECIAL REPORT OF THE DIVISION OF WATER AND SEWAGE ON THE WATER SUPPLY OF CALDWELL, KAN.

To the State Board of Health, Topeka, Kan.:

GENTLEMEN—Early in September, 1912, the department of water and sewage of the State Board of Health investigated ten reported cases of typhoid fever in the city of Caldwell, Kan. Among these ten cases there were three deaths. All used either city water or water from the city well on Main street. It can not be proven definitely that the cases investigated came from these sources, but by inspection and by analyses these waters were shown undoubtedly to be polluted.

Formerly the city water was obtained from a well located one mile south of town on the bank of Bluff creek. This well has recently furnished less than one-half of the water consumed, and the additional amount required has been obtained by pumping directly from Bluff creek. The creek is undoubtedly the source of pollution, shown both by inspection and analyses.

After the investigation in September the emergency hypochlorite plant of the State Board of Health was immediately put into operation and the creek water sterilized. The city was ordered to construct and operate a similar plant of its own. It has carried out but a portion of this order, constructing the plant but operating it carelessly and intermittently. It has been impossible to make the required inspection to fully protect the health of the citizens of Caldwell from the dangers arising from the use of this grossly polluted water.

Very respectfully, GRANDVILLE R. JONES, *Engineer*.

WHEREAS, Our department of water and sewage has made the foregoing report; and

WHEREAS, In our opinion the health of the citizens of Caldwell is seriously jeopardized by a continuation of the use of water from Bluff creek without proper treatment:

BE IT ORDERED:

1. That after July 1, 1913, the city of Caldwell cease pumping into the city water mains the untreated water from Bluff creek.

2. That on or before July 1, 1913, either the suction lines leading to Bluff creek be removed, or some approved method for the purification of the Bluff creek water be installed.

3. That from the receipt of this order until July 1, 1913, or until the suction line leading to the creek be removed, or until an approved method of purification be installed, all water taken from the creek must be treated by the city with hypochlorite of lime as directed by the division of water and sewage of the State Board of Health at the time of their investigation in September, 1912.

The time limit set forth in this order, namely, July 1, 1913, may be extended by the State Board of Health, or the secretary and engineer of the State Board of Health acting for said Board, in case they are not in session; providing—

1. That the city of Caldwell makes formal application for such extension.

2. That the city of Caldwell shows satisfactorily to the State Board of Health, or the officials acting for it, that the city has been acting in good faith since the receipt of this order and has started investigations leading towards the solution of the problem involved.

3. That the city of Caldwell shows the time set forth in this order to be insufficient for the completion of the works necessary for either the purification of the Bluff creek water or obtaining a new and safe supply, or whatever other approved project the city may deem advisable to adopt.

Adopted by the State Board of Health at its regular quarterly meeting held in the office of the secretary, at Topeka, on the 28th day of March, 1913.

V. C. EDDY, *President*.

S. J. CRUMBINE, M. D., *Secretary*."

The engineer then invited the attention of the Board to certain proposed extensions of the Salina sewerage system, and read certain protests to the proposed extension, whereupon a motion was unanimously carried that in the opinion of the State Board of Health the sewerage system should be extended to a point in the river beyond the residential district. It was not thought advisable, however, to make this motion in the shape of an order.

Upon motion the Board approved of the order granting permission to the city of Holton for the temporary use of creek water, under the conditions named in the permission.

Upon motion the following resolution was adopted:

WHEREAS, The motion that the water laboratories make a sanitary analysis of the domestic water supply of every city in the state at least once a year, and that bacteriological samples be also secured for bacteriological examinations, was unanimously adopted at the first and second quarterly meeting of the State Board of Health, held at Manhattan October 20 and 21, 1911; it is recommended this work be continued for this year.

The state registrar of vital statistics then made his report for the first calendar year of the operation of the new vital statistics law, which was ordered placed on file.

The assistant chief food and drug inspector then made a verbal report of the work of his division. Upon motion the division was instructed to check all cases to the aggrieved parties where errors had been made in filling prescriptions.

Upon motion the attorney-general was requested to inquire into and investigate the reason, if any, why the case against the Davis Mercantile Company for the sale of reprocessed, adulterated and misbranded peaches was dismissed without the knowledge or consent of the division of foods and drugs, and further to request that if in his judgment, after the investigation, action should be brought against the aforesaid

Davis Mercantile Company for the reasons herein stated, to so instruct the county attorney.

It was moved and unanimously carried that the action of a certain firm securing a contract from the Board of Control for supplying state institutions with certain food products that were misbranded or adulterated be investigated, and that such steps be taken in the matter as are found necessary.

The report of the Food and Drug Standards Committee was then received, whereupon the following revised standards on mincemeat, condensed mincemeat and catchup were unanimously adopted, and paragraphed *i*, regulation 15, of the Kansas food and drugs law was revised.

These standards and regulation read as follows:

REPORT OF STANDARDS COMMITTEE OF THE BOARD OF HEALTH.

Your Committee on Standards begs leave to report the following proposed revisions for the standards of food products as specified:

Mincemeat.

Mincemeat is a mixture of cooked, comminuted meat, with chopped suet, apples and other fruit, salt and spices, with sugar, sirup or molasses, with or without vinegar, fresh, concentrated, or fermented fruit juices or spirituous liquors. *The meat present is in sufficient quantity so that the total nitrogen of the mincemeat is not less than 0.50 per cent.*

Condensed Mincemeat, when mixed with liquid as directed on the label, conforms in all respects to this standard except that not more than two (2) per cent of flour may be used as a binder. If glucose be used in any kind of mincemeat its presence must be declared on the label, using type not smaller than eight-point capitals.

Catchup.

Catchup (Ketchup, Catsup) is the clean, sound product made from the properly prepared, clean, sound, fresh, ripe, whole tomatoes, with spices, and with or without sugar or vinegar. *It contains not more than 25 yeasts and spores per one-sixtieth cubic millimeter, and not more than twenty-five million (25,000,000) bacteria per cubic centimeter, and less than twenty-five (25) per cent of the microscopic fields show molds.*

Mushroom Catchup, Walnut Catchup and Other Catchups are catchups made of material as above described and conform in name to the substance used in their preparation.

Vinegar.

Your committee recommends that paragraph *i*, regulation 15, subdivision 3, page 16, of the published rules and regulations, third edition, 1911, be changed to read as follows:

"Each package of vinegar, wholesale or retail, as delivered to the purchaser, shall bear a label stating the source, or the kind of vinegar contained therein."

The resignation of John Kleinhans, food inspector, was then presented by the president, and upon motion the resignation was accepted, whereupon the following resolution was then introduced and unanimously adopted:

Resolved, That while we accept the resignation of Mr. John Kleinhans as food inspector of the State Board of Health, this act is not to be construed as excusing or condoning in the slightest degree his unjust, ungrateful and treacherous actions affecting the honor and efficiency of this Board.

The question of the standards for disinfectants was briefly discussed, and upon motion was referred to the Standards Committee for report at the annual meeting.

The recent legislature passed a law providing for a State Board of Barbers, which contains a requirement that the appointees appointed by the governor shall be examined by the State Board of Health to determine their fitness to serve as members of the Barber Board. Three members appointed by the governor, namely, Mr. C. C. Moyer, of Wichita, Mr. W. F. Koester, of Atchison, and Mr. C. H. Matthews, of Topeka, had presented themselves for such examination, and accordingly an oral examination as to their fitness was made by the Board. Upon motion a committee composed of Doctors Crumbine, Lerrigo and Magee was appointed to continue the examination, and instruct that if in the opinion of the committee they are found to meet the requirements as members of the Barber Board, to certify to such fact to the aforesaid appointees for and in behalf of the Board. The certificate of approval was granted as above.

No other business appearing, upon motion the Board adjourned.

SECRETARY'S REPORT.

ANNUAL MEETING OF THE STATE BOARD OF HEALTH,
HELD IN THE OFFICE OF THE SECRETARY, IN THE STATEHOUSE,
TOPEKA, KAN., June 30, 1913.

GENERAL.

MR. PRESIDENT AND MEMBERS OF THE STATE BOARD OF HEALTH: The work of the department of the State Board of Health during the past year has been, in a way, similar to the work of the previous year in volume and in character of the services performed.

The state has been free from any extensive epidemic or pestilence, affecting the human, although it has been visited by a so-called "plague," which has resulted in the death of thousands of horses in central and western Kansas. The general good health of the people and our freedom from pestilence has been reflected in the low death rate the past year of 10.5 per thousand.

THE DIVISION OF FOOD AND DRUGS.

Most excellent and highly efficient work has been accomplished in the division of food and drugs during the past year. Perhaps this aggressive efficiency is best shown by the attitude of certain manufacturers and dealers who are loath to comply with the provisions of the food and drug law, as evidenced by our recent legislative experience, and also the fact that a suit has been brought in the district court of Shawnee county to restrain the Board from enforcing the provisions of the law as applied to certain glucose products manufactured by the Corn Products Company. While we have one less food inspector than formerly, yet we hope to continue the work during the coming year even more aggressively, and with better results than hitherto obtained, for the legislature was kind enough to relieve us of hotel and restaurant inspections which have heretofore taken considerable of our inspectors' time.

The assistant chief food and drug inspector will make a detailed report for his division.

INSPECTION OF PACKINGHOUSE EMPLOYEES.

The inspection of packinghouse employees has not yet been fully completed by all the packinghouses, but is progressing in accordance with agreement. It will be but a short time when it can be said that Kansas is the only state in the Union where the physical examination of packinghouse employees has been completed.

THE DIVISION OF WATER AND SEWAGE.

The work in the division of water and sewage continues to be very heavy and of very great importance, particularly since the certification of waters used by interstate carriers has been thrown upon this division of the Board's work.

On April 12 the following circular letter was issued to the general managers of the railway companies operating in Kansas:

"APRIL 12, 1913.

"To General Managers, Kansas Railways:

"At a regular meeting of the Kansas State Board of Health held March 28, 1913, the Board instructed the secretary to make all certifications of the wholesomeness of the water furnished to interstate carriers in this state, as provided in Treasury Department Circular of January 25, 1913, amending article 3 of Interstate Quarantine Regulations.

"This action was taken in view of the fact that there are no municipalities that have, nor are they now prepared to make, satisfactory analysis of water supplies. The State Board of Health, operating under the water and sewage law, has made such analysis and examination, and records are on file in this office of the same.

"In some cases we are prepared to make certification without further examination of the waters; in other cases, where the water has been of doubtful quality, further examinations must be made. The government has appointed a commission to adopt a standard of purity for such waters, and until such standard is adopted and promulgated no certificates can be issued.

"In the meantime we would request that each company send in a complete list of all the places on their lines where water is secured for drinking purposes, including all branch lines and both interstate and intrastate trains. Also indicate the source of supply, whether city supply or company supply.

"Your early reply will greatly expedite the work.

Very truly yours, S. J. CRUMBINE, M. D., *Secretary.*"

This division of the Board has already undertaken the examination of water supplies furnished by interstate carriers, and as soon as the federal authorities will have promulgated a standard of purity for waters thus served, certificates will be issued as rapidly as possible to the railroads being served with pure water.

DIVISION OF COMMUNICABLE DISEASES.

The number of infectious diseases reported to this department for the past year is as follows:

TYPHOID FEVER.

	1912-'13		1911-'12	
	Cases.	Deaths.	Cases.	Deaths.
June	48	4	87	18
July	119	9	231	33
August	281	12	261	32
September	237	16	331	17
October	197	36	303	30
November	123	16	153	6
December	65	12	61	1
January	32	2	89	5
February	35	5	40	2
March	17	3	35	3
April	15	0	35	3
May	17	8	23	1
Totals	1,186	118	1,599	151
			1,186	118
			418	33

DIPHTHERIA.

	1912-'13		1911-'12	
	Cases.	Deaths.	Cases.	Deaths.
June	24	0	22	3
July	20	1	20	2
August	11	0	67	8
September	57	2	76	8
October	88	8	111	9
November	124	11	147	8
December	84	7	114	7
January	71	6	91	7
February	59	4	106	7
March	55	4	42	3
April	39	5	42	3
May	55	4	30	2
Totals	687	52	886	67
			687	52
			181	15

SCARLET FEVER.

	1912-'13		1911-'12	
	Cases.	Deaths.	Cases.	Deaths.
June	47	1	58	0
July	67	1	23	1
August	27	0	88	1
September	80	0	45	1
October	188	3	170	1
November	186	15	167	5
December	305	17	273	5
January	233	5	202	6
February	194	3	248	9
March	213	4	163	0
April	124	4	168	0
May	213	4	90	0
Totals	1,877	57	2,190	29
			1,877	57
			313	28

SMALLPOX.

	1912-'13		1911-'12	
	Cases.	Deaths.	Cases.	Deaths.
June	30	0	99	1
July	13	0	74	10
August	15	0	87	6
September	11	2	25	0
October	7	0	48	1
November	20	1	211	2
December	25	0	205	0
January	41	0	49	1
February	84	1	20	0
March	87	0	104	0
April	228	2	104	0
May	87	0	24	0
Totals	648	6	1,050	21
			648	6
			402	15

MEASLES.

	1912-'13		1911-'12	
	Cases.	Deaths.	Cases.	Deaths.
June	104	0	237	4
July	71	0	23	0
August	10	0	156	3
September	6	0	19	0
October	6	0	8	0
November	14	0	15	0
December	44	0	28	0
January	229	0	78	0
February	1,115	4	434	2
March	2,024	21	473	4
April	1,960	5	473	4
May	2,024	21	663	4
Totals	7,807	51	2,607	21
			7,607	51
			5,000	80

A great reduction is shown in all communicable diseases except measles, in which an increase in both cases and deaths is shown. There was an increase in deaths from scarlet fever.

To-morrow the services of Dr. J. J. Sippy, the epidemiologist of the Board begins.

SUMMER SCHOOL FOR HEALTH OFFICERS AND PHYSICIANS.

The past week has been very profitably and interestingly spent by fifty physicians and health officers in attendance at the free annual Summer School for Health Officers and Physicians. The program as carried out is herewith presented:

MONDAY, JUNE 23, 1913.

Registration at Snow Hall, during forenoon.

Annual meeting of State Association of Health Officers, Snow Hall.

Evening session of Association of Health Officers, parlors of Eldridge Hotel.

TUESDAY, JUNE 24.

Opening of Second Annual Summer School for Physicians and Health Officers, Snow Hall. Chancellor Strong.

Laboratory—Dr. T. H. Boughton, professor of pathology and bacteriology, School of Medicine, University of Kansas. Collection of samples of water, milk, sewage, for bacteriological examination. Plating out samples. Counting colonies. Presumptive tests for *B. coli*. Confirmatory tests. Identification of typhoid bacillus in water. Widal agglutination test.

Lecture—Water-borne Diseases: Epidemiology of Typhoid Fever. L. L. Lumsden, M. D., surgeon, United States Public Health Service, Washington, D. C.

Lecture—Water-borne Diseases: The Prevention of Typhoid Fever. L. L. Lumsden, M. D., surgeon, United States Public Health Service, Washington, D. C.

Lecture—A Social and Industrial Study of Tuberculosis in Our Cities of the First Class. J. J. Sippy, M. D., epidemiologist, State Board of Health.

Illustrated Lecture—Insects and Public Health. Professor S. J. Hunter, entomologist, University of Kansas.

WEDNESDAY, JUNE 25.

Laboratory—Milk and Water Bacteriology. Dr. T. H. Boughton, professor of pathology and bacteriology.

Lecture—The Disposal of Wastes from Country Homes. Dr. W. C. Rucker, assistant surgeon general, United States Public Health Service, Washington, D. C.

Lecture—The Control of Common Insect-borne Diseases. Dr. W. C. Rucker, assistant surgeon general, United States Public Health Service, Washington, D. C.

Lecture—The Compulsory Notification of Tuberculosis Law. Dr. C. S. Kenney, superintendent Kansas Sanatorium for Tuberculosis.

Round Table—Dr. S. J. Crumbine, secretary Kansas State Board of Health.

Annual Banquet—Association of Health Officers. Eldridge Hotel.

THURSDAY, JUNE 26.

Laboratory—A Study of the Human Blood. Dr. T. H. Boughton, professor of pathology and bacteriology.

Lecture—Dr. W. A. Evans, professor preventive medicine, Northwestern University, and former health officer, Chicago.

Lecture—Dr. W. A. Evans, professor preventive medicine, Northwestern University, and former health officer, Chicago.

Round Table—Dr. S. J. Crumbine, secretary Kansas State Board of Health.

Lecture—Drug Adulteration and Drug Standards; Demonstration. Prof. L. E. Sayre, dean of school of pharmacy and drug analyst State Board of Health, University of Kansas.

Public Lecture, Snow Hall—Dr. W. A. Evans, professor preventive medicine, Northwestern University, and former health officer, Chicago. Public cordially invited.

FRIDAY, JUNE 27.

Laboratory—Laboratory Methods in Diagnosis. Dr. T. H. Boughton, professor of pathology and bacteriology.

Lecture—Dr. E. R. Kelley, State Health Commissioner, Seattle, Wash.

Lecture—The Reinspiration of Expired Air. Dr. T. R. Crowder, sanitarian, The Pullman Company, Chicago, Ill.

Laboratory Demonstration.

Antitoxins, Serums and Vaccines. Dr. T. H. Boughton, professor of pathology and bacteriology.

SATURDAY, JUNE 28.

Bell Memorial Hospital, Rosedale, Kan.

Clinic in Surgical Wards. Doctors Sudler, Sutton and Hertzler.

Clinic in Medical and Obstetrical Wards. Doctors Milne and Guffey.

Clinic in Eye, Ear, Nose and Throat. Doctors Sawtell, Lidikay and May.

MEETING OF THE ASSOCIATION OF STATE AND PROVINCIAL BOARDS OF HEALTH OF NORTH AMERICA.

The meeting of the Association of State and Provincial Boards of Health was held at St. Paul, Minn., June 13 and 14, 1913. A very interesting program was presented to the association, which was presided over by the vice president in the absence of Dr. William Snow, the president.

Two matters of special interest are worthy of record in this report, the first being the regulations adopted by the association for the control of trachoma, which the report of the committee on investigation of that disease shows is alarmingly on the increase throughout the United States. This is particularly true among the Indian tribes, including the Pottawatomie and Kickapoo Indian reservations in our own state. The following rules were unanimously adopted, and it is recommended that they be approved by the Board:

RECOMMENDATIONS FOR THE CONTROL OF TRACHOMA.

1. Trachoma should be declared a notifiable disease and every case notified should be investigated by local health officials to enforce state regulations relating to the control of trachoma.
2. Trachoma should be declared conditionally quarantinable and sufficient funds provided in order that cases of trachoma which are not or can not be treated at home in accordance with the regulations of the State Board of Health governing this disease, may be apprehended and treated at the expense of the state.
3. All cases of active trachoma should be excluded from the public schools.
4. A detailed examination of public school children should be made at least once each year by school physicians or local health officers where there is no school physician for the detection of possible cases of trachoma.
5. All cases of conjunctivitis should be excluded from school until such condition is recovered from.
6. Wherever practicable, school nurses should be employed whose duty it shall be to visit the houses of trachomatous children excluded from school on that account, to administer treatment under a physician's direction, and to instruct the parents in the rules of hygiene governing this disease.
7. Trachomatous children whose parents are unable to provide medical treatment should be treated at the expense of the state.
8. The coöperation of all the mining companies of the state should be secured in the making of a detailed examination of the mining population for the detection of all the cases of trachoma among the miners employed by them.
9. Miners suffering from trachoma should not be allowed to drift from one location to another unregulated and unrestricted.
10. All miners suffering from trachoma should be compelled to undergo treatment under such restrictions as may insure safety to others. If necessary, this treatment should be at the state's expense and made mandatory.
11. All miners' boarding houses and boarding shacks should be regularly inspected, and rules and regulations prescribed and enforced to prevent the spread of trachoma among the men dwelling therein.

After four years of discussion and investigation concerning the proper regulations for the transportation of the dead by carriers engaged in interstate commerce, a unanimous agreement was entered into by the states and provinces which are embodied in the regulations herewith presented, and which it is recommended be approved by the Board in order that we may be in uniform agreement with the other states and provinces. The rules follow:

REGULATIONS REGARDING THE TRANSPORTATION OF THE DEAD.

RULE 1. A transit permit and transit label issued by the proper health authorities shall be required for each dead body transported by common carrier.

The transit permit shall state the name, sex, color and age of the deceased, the cause and date of death, the initial and terminal points, the date and route of shipment, a statement as to the method of preparation of the body, the date of issuance, the signature of the undertaker, the signature and the official title of the officer issuing the permit.

The transit label shall state the place and date of death, the name of the deceased, the name of the escort or consignee, the initial and terminal points, the date of issuance, the signature and official title of the officer issuing the permit, and shall be attached to the outside case.

RULE 2. The transportation of bodies dead of smallpox, plague, Asiatic cholera, typhus fever, diphtheria (membranous croup, diphtheritis sore throat), scarlet fever (scarlet rash, scarlatina), shall be permitted only under the following conditions:

The body shall be thoroughly embalmed with an approved disinfectant fluid, all orifices shall be closed with absorbent cotton, the body shall be washed with the disinfectant fluid, enveloped in a sheet saturated with the same, and placed at once in the coffin or casket, which shall be immediately closed, and the coffin or casket or the outside case containing the same shall be metal, or metal lined, and hermetically and permanently sealed.

RULE 3. The transportation of bodies dead of any disease other than those mentioned in Rule 2 shall be permitted under the following conditions:

(a) When the destination can be reached within twenty-four hours after death, the coffin or casket shall be encased in a strong outer box made of good sound lumber not less than seven-eighths of an inch thick, all joints must be tongued and grooved, top and bottom, put on with cleats or cross pieces, all put securely together, and be tightly closed with white lead, asphalt varnish, or paraffin paint and a rubber gasket placed on the upper edge between the lid and box.

(b) When the destination can not be reached within twenty-four hours after death, the body shall be thoroughly embalmed and the coffin or casket placed in an outside case constructed as provided in paragraph (a).

RULE 4. No disinterred body from any disease or cause shall be transported by common carriers unless approved by the health authorities having jurisdiction at the place of disinterment, and transit permit and transit label shall be required as provided in Rule 1.

The disinterment and transportation of bodies dead of diseases mentioned in Rule 2 shall not be allowed except by special permission of the health authorities at both the place of disinterment and the point of destination.

All disinterred remains shall be enclosed in metal or metal lined boxes and hermetically sealed, provided that bodies in a receiving vault, when prepared by licensed embalmers, shall not be regarded as disinterred bodies until after the expiration of thirty days.

RULE 5. The outside case may be omitted in all instances when the coffin or casket is transported in hearse or undertaker's wagon.

RULE 6. Every outside case shall bear at least four handles, and when over five feet six inches in length shall bear six handles.

RULE 7. An approved disinfectant fluid shall contain not less than five per cent of formaldehyde gas. The term "embalming" as employed in these rules shall require the injection by licensed embalmers of not less than 10 per cent of the body weight, injected arterially in addition to cavity injection, and twelve hours shall elapse between the time of embalming and the shipment of the body.

Your representative was honored by his being elected president of the association for the ensuing year.

THE SCHOOL OF MEDICINE.

The coöperative work between the School of Medicine and this department has continued during the past year, apparently to the entire satisfaction of the University. A course in preventive medicine has been added to the curriculum, which we believe to be highly desirable and which seems to have been well received. This course will be largely increased during the coming year, provided the present arrangements between this department and the University are continued by the new Board of Administration.

In conclusion I desire to express my appreciation to the members of the Board and the Advisory Board for the uniform courtesy and loyalty accorded their secretary during the past year, with the sincere hope that the cordial friendships that have been established during the year's work in public-health service may be continued during the years that are to come. Respectfully submitted. S. J. CRUMBINE, M. D., *Secretary*.

MINUTES OF THE ANNUAL MEETING OF THE STATE BOARD OF HEALTH,

HELD IN THE OFFICE OF THE SECRETARY, TOPEKA, KAN., June 30, 1913.

The annual meeting of the State Board of Health was held in the office of the secretary in Topeka, Monday, June 30, 1913. All of the members of the Board were present excepting Doctors Thompson and Coburn. All members of the Advisory Board were present, excepting Professors Bailey and Sayre, Doctor Magee and Mr. Deacon. No members of the conferees were present.

The minutes of the last quarterly meeting were read and approved, after which the annual report of the secretary was read, whereupon the recommendations made by the secretary were taken up for discussion, and upon motion the recommendations for trachoma control, as approved by the Association of State and Provincial Boards of Health of North America, were approved, and upon motion a committee was appointed, consisting of Doctors Magee, Lerrigo and Crumbine, to make an investigation into the extent of trachoma among Kansas people and report back to the State Board of Health at its next quarterly meeting such recommendations as in their judgment will be necessary to control the diseases in this state. Upon motion it was unanimously voted that trachoma should be included in the list of reportable diseases, and that notice to all health officers and physicians be made to that effect.

A motion was unanimously adopted approving the rules for the transportation of the dead in interstate traffic that had been approved by the Association of State and Provincial Boards of Health of North America, and a motion likewise carried that all previous rules and regulations in conflict therewith should be repealed.

The report of the engineer of the Board was then read, and after a discussion as to the condition of certain water supplies in the state, upon motion the division of water and sewage was instructed to make an investigation and secure such data in addition to that already collected by the division (if such data was not complete), concerning the water supplies of the following cities: Hays, Leavenworth, Lawrence, Chanute, Fort Scott, Emporia, Marysville, Holton and Manhattan; which data shall be used as a basis for the issuance of an order by the State Board of Health for such cities or private corporations owning water plants in any of these cities to either change the source of their water supply or to so treat the water supply by methods approved by the State Board of Health as to render the water pure and wholesome to the citizens of these respective cities.

The engineer of Kansas City, Mo., accompanied by an attorney representing said city, and the mayor and city attorney of Rosedale, presented to the State Board of Health plans and specifications drawn up by the authorities of the city of Kansas City, Mo., for the disposal of sewage from what is known as the Turkey creek sewer district and the O. K. creek sewer district, together with certain plans for the prevention of floods in the Kaw river bottoms on the east side of the river. After a general discussion the matter of the approval of these plans and the permission to discharge untreated sewage into the Kansas river from the outlet of the proposed sewer was referred to a committee composed of Mr. C. D. Welch, attorney for the Board, and Prof. Grandville R. Jones, engineer for the Board, for a report at a later time in the session, and the committee was also instructed to call the mayor of Kansas City, Kan., by long-distance telephone to inquire whether or not the city of Kansas City, Kan., had received notice of the proposed presentation of this matter to the State Board of Health.

The committee having retired, the regular order of business of the State Board of Health was then taken up, and under new business Mr. McGaw, attorney for the Corn Products Company, requested that the standards recently promulgated for mincemeat be amended. After a general discussion the entire question was referred to the Food and Drug Standards Committee for investigation and report at the next quarterly meeting of the Board.

Upon motion the following resolution was unanimously adopted, whereupon copies of the resolution were ordered to be attested by the president and secretary of the State Board of Health under the seal of the Board. The resolution follows:

WHEREAS, Turkey creek, a natural watercourse, now flows through the city of Rosedale, Kan., into Kansas City, Mo., and finally into Kansas City, Kan., and empties into the Kaw river in Kansas City, Kan.; that it now carries through its open channel the sewage of the city of Rosedale, also a part of the sewage of Kansas City, Mo., flowing into it through what is known as the O. K. creek sewer at Fairmount avenue and Twenty-fifth street in Kansas City, Mo., and it also carries a part of the sewage of Kansas City, Kan.; that all of said sewage is now discharged into the Kaw river through said Turkey creek, as aforesaid; and

WHEREAS, The health, safety and comfort of the inhabitants of Rosedale, Kan., Kansas City, Kan., and Kansas City, Mo., and especially those who live in the Kaw river bottoms adjacent to Kansas City, Kan., and in the territory drained by O. K. creek and Turkey creek in Kansas City, Kan., and Kansas City, Mo., requires that the sewage be taken out of Turkey creek and conducted into and through inclosed sewers, as herein-after set forth; and that in order to protect the property in said district against high waters, floods and overflows from streams in Kansas it is necessary that the water of Turkey creek be diverted in Rosedale, Kan., at a point in Rosedale in the vicinity of the intersection of said creek with Valley street, to the northward into an open ditch or drain and through a tunnel under Greystone Heights in Kansas City, Kan., and caused to flow and empty into the Kaw river above the Kansas City, Kan., Fifth street bridge; that the mouth of Turkey creek where it now empties

into the Kaw river be closed in order to make complete and effective the dike or levee on the east bank of the Kaw river; that the water and sewage heretofore and now flowing through the open channel of Turkey creek be taken out of the same and carried through an inclosed sewer, to be known as the Turkey creek sewer, from the Southwest boulevard and state line to a point on Twenty-fifth street about 500 feet west of Fairmount avenue in Kansas City, Mo., where it will intersect and connect with what is to be known as the O. K. creek sewer extension, and from the last point said sewage shall be carried to the O. K. creek sewer extension westward along Twenty-fifth street to the state line between Kansas and Missouri, and then in a northwesterly direction to the Kaw river, emptying into the same at a point about 150 feet below the Kansas City Terminal bridge over said river; all of said work to be done, constructed and carried out as now or which may be hereafter designed and planned by the engineering department of Kansas City, Mo.; provided, that if any changes are made in the plans and specifications as they now are, said changes shall be submitted to and be approved by the division of water and sewage of the Kansas State Board of Health; that by the construction and maintenance of such works, sewers and flood-protection improvements and devices, all of the inhabitants owning property in said cities, and especially in said district to be drained and sewerred, will be benefited, and that such works, draining, sewering and the changing of the course of Turkey creek at said point, and the closing of its mouth as herein contemplated, is deemed wise, necessary, mutual and proper, and if carried out and completed as contemplated will result in great benefit and protection to such cities and the inhabitants thereof.

A map or plat showing the proposed points of the diversion of Turkey creek, and the route of the same as diverted through said ditch, drain and tunnel, and the dike or levee and into the Kaw river; the present location and route of Turkey creek from said point of diversion to the point where it now empties into the Kaw river; the location and proposed route of the Turkey creek sewer; the location and route of the proposed extension of O. K. creek sewer, and the point where it enters through the dike and levee and into the Kaw river, and other data concerning the same, is hereto attached and made a part hereof. The plans for all of said work are filed herewith; and

WHEREAS, Kansas City, Mo., proposes at its own cost and expense to do all of said work; to build, construct and maintain said ditch, drain, tunnel and sewers, excepting the closing of the mouth of Turkey creek, which is to be done by the Kaw Valley Drainage Board, and desires permission to connect its O. K. creek sewer extension, as aforesaid, with the Kaw river in Kansas City, Kan., at a point about 150 feet below the Kansas City Terminal bridge, and to discharge its sewage flowing through said creek into the Kaw river at said point:

Now, therefore, In consideration of the premises, the Kansas State Board of Health approves of said plans for the doing of said work and the construction of said sewers, and grants to Kansas City, Mo., the right, privilege, authority and permission to extend its O. K. creek sewer carrying the Turkey creek and Rosedale sewage to the Kaw river at the point proposed in said plans, and discharge the sewage flowing through the same into the Kaw river at said point until such time as said sewage is of such volume or character as to be a menace and injurious to the public health. Whenever such sewage is such menace and injurious to the public health, as aforesaid, then Kansas City, Mo., shall, upon the order of the Kansas State Board of Health, be made, as provided by the laws of Kansas, to cease to discharge its sanitary sewage then flowing through said O. K. creek sewer extension into the Kaw river at said point, or shall so treat its sewage by such scientific treatment process, or otherwise dispose of its sewage, as will remove the objection thereto that it is a menace or injurious to the public health by reason of being discharged into the Kaw

river at said point. Such treatment process or other means of disposal of said sanitary sewage to be first submitted to and approved by the Kansas State Board of Health.

Provided, That this permit shall not become effective until Kansas City, Mo., files with this Board full and complete plans and specifications for said work, together with verified copies of all contracts which are made between Kansas City, Mo., and all other municipalities, corporations or persons affected by said works; and provided further, that construction on said work shall not be commenced until Kansas City, Mo., shall file with this Board its written acceptance of the terms hereof.

In testimony whereof, The Kansas State Board of Health has caused this permission to be issued this thirtieth (30th) day of June, nineteen thirteen (1913).

KANSAS STATE BOARD OF HEALTH,

(Seal)

By V. C. EDDY, *President*.

Attest: S. J. CRUMBINE, M. D., *Secretary*.

The committee appointed by the Board to investigate the proposition of the city of Kansas City, Mo., then made its report, and informed the Board that the mayor of Kansas City, Kan., had been called over the long-distance phone, and he acknowledged receipt of notification, bearing date of June 25, of the proposed hearing of the State Board of Health, copy of which notification was shown to members of the board. The mayor declared that he did not care to be represented, and thus no representation had been made. Copy of such notification follows:

JUNE 25, 1913.

Hon. T. W. Green, Mayor, Kansas City, Kan.:

MY DEAR SIR—In regard to the matter submitted to you and your city commissioners relating to the diversion of Turkey creek, and the taking of the sewage out of Turkey creek now discharging through it into the Kaw river, and confining it to an enclosed sewer and discharging it into the Kaw river at another point, are matters over which your State Board of Health has large jurisdiction under the laws of your state as we interpret them. Hence, before this great public improvement so necessary and important to those living or owning property in the Turkey creek and Kaw valleys affected thereby can move forward it will be necessary to get permission from such Board of Health.

We understand the Board meets in Topeka Monday, June 30. In order to get this preliminary step out of the way so that the improvement may proceed at the earliest possible date, Kansas City, Mo., will make application to such Board on that day in Topeka for such permission as the statute allows it to make in regard to the discharge of sewage in the rivers of your state.

If you desire to be present at such hearing we shall be pleased to have you do so.

Very sincerely yours,

J. C. PETHERBRIDGE,
Assistant City Counselor.

State of Missouri, County of Jackson, ss.

J. C. Petherbridge being first duly sworn according to law, upon his oath says that he is one of the assistant city counselors of Kansas City, Mo.; that on the 25th day of June, 1913, he sent a letter to Hon. T. W. Green, mayor of Kansas City, Kan., of which the above and foregoing is an exact copy; that he mailed the letter himself in the postoffice in Kansas City, Mo., in an envelope with the words "Law Department, City Hall, Kansas City, Missouri," in the left-hand upper corner of the envelope, and which envelope was addressed to "Hon. T. W. Green, Mayor, Kansas City, Kansas."

J. C. PETHERBRIDGE.

Subscribed and sworn to before me this 1st day of July, 1913.

(Seal.)

CARRIE M. RUPPELIUS,

Notary Public, Jackson County, Missouri.

(My commission expires May 6, 1917.)

Professor Willard, analyst for the Board, then made a report of the work of his department for the past year, which is as follows:

ANNUAL REPORT OF FOOD LABORATORY.

J. T. WILLARD and C. A. A. UTT.

The work of the laboratory has been largely of a routine nature, but has included some work of an investigational character as well. Work upon Graham flour and mincemeat has been continued.

The chief point of investigation in the case of Graham flour was to ascertain, if possible, whether samples submitted were really unbolted wheat meal or mixtures of by-products and low-grade flour. The method of separating by means of sifting, accompanied by examination of the separations and ascertaining their relative quantities, was devised and tested and seems to meet all of the requirements as a means of determining for practical purposes whether a flour sold as Graham is genuine or an imitation.

Investigation of mincemeat has consisted largely in observation of the percentages of nitrogen as correlated with meat present. The work upon mincemeat has led to the establishment of a new standard for this article which is more satisfactory to manufacturers and susceptible of practical use.

A little special examination was made of a number of brands of canned pears with reference to forming a judgment as to whether they were Bartlett's or an inferior brand. In this we were ably assisted by Prof. M. F. Ahearn of the Department of Horticulture. The results of this examination showed it to be quite practicable to distinguish Bartlett pears from others, in many cases at least.

Examination of catchup has been continued, and a very marked improvement has taken place in the quality of the catchups sold on the Kansas markets since our work began two years ago. A standard for catchup has been adopted by the Board.

A large number of brands of cove oysters have been examined with reference to total solids. A practice was quite prevalent in which few oysters and much water constituted the contents of the cans. This condition has been greatly improved. The standard of 10 per cent of solids has been applied to cove oysters the same as to fresh oysters.

Canned corn has received renewed attention, especially with reference to the conformity of the product with the quality advertised. It is very difficult in some cases to state positively whether the product is field corn of a good quality or sweet corn of inferior quality, but it is never difficult to distinguish between corn of poor quality and that of good quality.

Samples of canned salmon known to the trade as "Heavy Mends"—that is, cans which on account of defects require additional special soldering when the canning is done—have been examined and found to be in good condition.

The facilities of the laboratory have been employed in some analyses not directly connected with the State Board of Health. This includes analysis of samples of oleo submitted by those who were bidding for the contract of supplying the Soldiers' Home, and a large number of vinegars submitted by farmers throughout the state to be tested for acidity. A large number of samples of cream and milk have also been tested for the Dairy Commission. The total number of analyses for the year ending May 1, 1913, may be summarized as follows: Cream, 257; ice cream, 93; milk, 69; evaporated milk, 2; butter, 14; oleo, 6; lard, 20; mincemeat, 37; cove oysters, 41; fresh oysters, 3; Graham flour, 28; white flour, 11; catchups, 16; pears, 10; corn, 25; vinegar, 48; tomatoes, 2; pickles, 5; Miscellaneous, 45. Total, 749.

The report of the bacteriologist was then read, which is as follows:

Laboratory Report for Fiscal Year 1912-'13.

Total number of specimens received.....	2,740
Specimens examined for tuberculosis	1,796
Specimens examined for diphtheria	421
Specimens examined for Widal reaction	351
Samples of water tested for <i>Coli communis</i>	105
Brains of dogs examined for rabies	16
Brains of cats	4
Brains of skunk	1
Specimens examined for gonorrhœa	48
Specimens examined for meningitis	8

Positive Examinations.

Tuberculosis	302
Diphtheria	84
Typhoid	108
Water	40
Gonorrhœa	15
Rabies	10
Meningitis	4

Respectfully submitted.

SARA E. GREENFIELD.

Application was made by one of the railroad companies doing business in this state for an extension of time, inasmuch as many of them have not fully equipped their coaches with water coolers which will permit of a separation of the ice from the water, whereupon, upon motion, the Board unanimously extended the time thirty days and instructed the secretary to so notify the railway companies. Copy of such letter of notification is as follows:

To the Railroad Companies of Kansas:

Upon request, and for reasonable cause, the time for compliance of the order of the State Board of Health, published December 3, 1912, requiring that on and after July 1, 1913, the ice and water used for drinking purposes on trains and in stations should be kept separate, has been extended for thirty days.

Please to notify this department as soon as complete compliance has been made.

Very truly yours,

S. J. CRUMBINE, M. D., *Secretary.*

TOPEKA, KAN., July 1, 1913.

The sanitary rules proposed by the Board of Barbers under the new barber law, which requires their approval by the State Board of Health, were then presented, and upon motion the entire matter was referred to a committee composed of Doctors Lerrigo, Magee and Crumbine, to carefully review the said rules and to approve or reject any part or all of them. (Rules afterwards approved in compliance herewith.)

Under the heading of "Special Committees," the reports of inspections of state institutions were then made, and the secretary was instructed to make duplicate copies of such reports, sending a copy to the heads of such institutions, the original copies to be placed on file in this office.

Reports of inspections of the following institutions were made: State Manual Training School at Pittsburg, State University at Lawrence, State Reformatory at Hutchinson, State Home for the Feeble-minded at Winfield, Mother Bickerdyke Home, Girls' Industrial School at Beloit, State Agricultural College at Manhattan, State Normal School at Hays, State-house, and State Penitentiary at Lansing.

The annual election of officers was then held, with the following result:

Dr. O. D. Walker, Salina, president.

Dr. J. S. Cummings, vice president.

Dr. Sara E. Greenfield, bacteriologist, and other members of the Advisory Board were reelected.

Prof. Grandville R. Jones, consulting engineer.

Prof. C. A. Haskins, engineer.

Prof. Fred C. Hesser, assistant engineer.

Conferees: J. A. Kimball, Salina, Manufacturers' Association; B. L. Thompson, Herington, secretary Kansas Butchers' Association; W. F. Jackson, Fort Scott, Retailers' Association.

All other members were reelected.

No other business appearing, upon motion, the Board adjourned.

REPORT FIRST AND SECOND QUARTERLY MEETINGS OF THE STATE BOARD OF HEALTH,

HELD IN THE OFFICE OF THE SECRETARY, DECEMBER 11, 1913.

Mr. President and Members of the State Board of Health:

Since the annual meeting of the Board in June the work of the department has progressed in the even tenor of its way. Your secretary spent a portion of July and August in a hospital and in a convalescing resort in northern Wisconsin for a trouble that has handicapped his work the past few years. During his absence the various departments of the work were ably conducted by the heads of the divisions, Doctor Sippy acting as secretary.

I wish to make grateful acknowledgment of the kindness of the chiefs of divisions for their sympathy and untiring zeal for the prosperity of the work.

There have been no plagues or epidemics of an extensive character, nor did the extreme heat of the summer produce any unusual sickness or distress, outside of a slight increase in the number of deaths from heat exhaustion.

DIVISION OF WATER AND SEWAGE.

The unprecedented drouth of the past season added very materially to the work of the division of water and sewage in that a score of cities in the state found themselves hard pressed for a water supply sufficient in quantity and wholesome in quality. Like every disaster visited upon the people, this one has had its beneficial influence in that a large number of cities that were brought to extreme distress by the failure of their water supplies have since made or are making ample provision for such supplies. Thus, nature has brought about a speedy solution of many problems that the State Board of Health has been working upon or recommending, lo these many years!

In like manner, too, the low stage of the water in the rivers has emphasized the necessity for sewage purification, particularly of those streams that are used as a source of water supply, and thus certain cities have been confronted with the necessity (long since urged by the Board) of giving proper treatment to their sewage in order that the natural waters of the state might be preserved. This work is moving with great rapidity and has kept two of our engineers extremely busy since our last meeting.

The matter of certifying to the purity of waters and ice used by interstate carriers in passenger coaches is being worked out at the water laboratories of the State Board of Health at the University, and certificates are being issued in conformity to a resolution adopted by the State Board of Administration of Educational Institutions, a portion of their minutes relating thereto reading as follows:

"In re Examination of Water Supplies for the Railroads: In the matter of the fee for the examination of water samples required by the United States Treasury Department, it is hereby ordered that a fee of fifteen dollars be charged for each sample; ten dollars for the chemical and bacteriological examination of such waters, and five dollars to be charged as a fee for the local survey and collection of the water."

In Hygienic Laboratory Bulletin No. 89, issued by the United States Public Health Service, will be found the report of the Joint Sanitary Survey of the Missouri river, made by the Public Health Service and the Kansas State Board of Health, together with the assistance of other city and state laboratories. The report is written by Dr. Allan J. Mc-

Laughlin and is a very important contribution to the literature and knowledge pertaining to sewage pollution of interstate streams. It is recommended that each member of the Board carefully review this joint report of the sanitary survey of the Missouri river.

Mr. Haskins will give a detailed report of the division of water and sewage.

DIVISION OF FOODS AND DRUGS.

Handicapped as this division is with a very limited expense account and with one less food inspector than we have had hitherto, the work of the division has proceeded with even greater efficiency than in the past. The inspectors are better trained by reason of added experience, and are therefore capable of doing better work. By degrees the sanitary requirements under which foods and drugs are manufactured and sold are being raised, and gradually better conditions are noted to prevail throughout the state. It is believed that, in a general way, the cordial coöperation of dealers and manufacturers is being given to the work of this division. What small show of opposition is noted seems to come entirely from those who have felt the force and power of the law because of law violation. It has always been the policy for the department to place the educational work first—that is, first to endeavor by education and persuasion to bring about compliance with legal requirements, and only through failure in this regard has the law been appealed to.

The work of making physical examination of employees in the large packing plants of the state has proceeded in accordance with agreement, with one single exception. The results obtained by this work are so important that the single exception should not be permitted to exist, for if those who are suffering from infectious diseases, including tuberculosis and venereal diseases, are thus found and eliminated from the possibility of being a medium of food contamination, which the examinations thus far made have so amply demonstrated, one company should not be allowed to set at defiance the excellent work that is being done by all the other companies. It is therefore recommended that the secretary be instructed to write to the derelict company and urge the continuance of the examinations in view of the above stated conditions.

Another matter worthy of note is the attitude taken by the Retail Butchers' Association of this state, which refuses to allow any butcher to join their organization whose place is kept in an insanitary condition or who has charges preferred against him by this department because of unlawful conditions existing. Such generous support and coöperation can not fail to bring about improved conditions throughout the state in the control of meat-producing establishments.

Recently some very excellent work has been done by the assistant chief inspector in ferreting out the evidence necessary to convict a man who was engaged in a very large way in disposing of the carcasses of diseased animals for food purposes. Mr. Tilford deserves the commendations of the Board for this excellent piece of work.

On November 14 the government called all the state food officials to a conference in the city of Washington for the purpose of placing upon a practical and efficient basis the plan of coöperation as outlined by the Committee on Coöperation of the Association of State and National Food and Drug Control Officials. There was a large attendance of commissioners and chemists at this meeting, which lasted two days, with the result that the Bureau of Chemistry of the Federal Government is pledged to provide the necessary organization and ways and means whereby real and effective coöperative work between the states and the government and between the respective states can be put on a permanent basis. At this meeting, also, a committee of three was appointed to represent the association, together with three selected from the Bureau of Chemistry of the Federal Government and three from the Association

of Official Agricultural Chemists—a committee of nine in all—to work out and adopt standards for foods which when agreed up by the committee shall be submitted to the respective bodies above mentioned, and those that are unanimously adopted will be promulgated as the standards for foods by the Secretary of Agriculture, which standards shall be uniform throughout the United States.

Another committee was appointed to memorialize Congress to bring about certain amendments to the national food and drug act whereby notable weaknesses of the act may be strengthened.

Your secretary was continued as chairman of the Committee on Cooperation.

This conference was unique in that it was the first one of its kind ever called at the instance of the Federal Government, and it must therefore be significant in that it expresses a determination to bring about uniformity of operation and enforcement of the national and state food and drug laws.

Mr. Tilford will give a detailed report of the work of this division.

DIVISION OF VITAL STATISTICS.

The work in the division of vital statistics is naturally increasing in volume and importance, the additional work this year being largely owing to the registration of marriages, in which all marriages are recorded at the central division of vital statistics; also the transfer of morbidity statistics to this division was made and is embodied in the work of this division.

Mr. Deacon spent several weeks this past summer in taking post-graduate work at Harvard University, fitting himself for a larger and wider interpretation and use of the valuable data gathered in this division; much of the rich material gathered during his summer course is now being utilized in a course of lectures being given to the senior class in the School of Medicine at Rosedale as a part and portion of the new curriculum on preventive medicine that has been added to the senior studies.

Perhaps the most notable recent achievement in this division of the Board's work is the intensive study of the death rate in the city of Topeka in conjunction with the social inventory made by the Russell Sage Foundation. Upon the publication of the findings of the survey it is earnestly recommended that each member of the Board carefully study the report of Mr. Schneider, which comprehends the sanitary investigation of the city, and particularly Mr. Deacon's contribution in regard to a study of Topeka's death rate. It is confidently expected that before many days have passed Kansas will be admitted into the registration area. During the coming year it is hoped that the statistical data gathered in this division will be the basis for an intensive study of mortality and morbidity conditions in this state, and also the basis for a social and industrial survey in their relation to sickness and death.

Mr. Deacon will give a detailed report of the work of this division.

DIVISION OF SANITATION AND COMMUNICABLE DISEASES.

As indicated at the beginning of this report, the state has been quite free of extensive epidemics, although several small epidemics of typhoid and diphtheria have occurred within the past two months, and some thirteen cases of poliomyelitis occurred at Parsons in July and early August.

Increased energy is being put forth towards a better enforcement of the laws intended for the suppression of epidemic diseases, particularly that of tuberculosis, and a searching check is made of all deaths reported as being due to tuberculosis which had not been reported during the lifetime. It is believed that this constant work is bringing results, in that better reports are being received from physicians over the state at the present time than ever before.

Doctor Sippy, the epidemiologist, has been reinforcing this insistent demand for the reporting of tuberculosis cases by having a number of

arrests made of physicians who refused or neglected to obey the provisions of the law. In his detailed report of the work of this division, this information will be set before you.

The cases of death from cancer as reported to this department in 1912 numbered 1056. This is nothing short of appalling, and must challenge our best efforts toward the establishment of such ways and means as will in some small measure at least prevent a similar death toll from cancer the coming years. Many of the best laboratories in the country, both public and private, are now engaged in laboratory studies on cancer, to determine, if possible, the cause of the disease, as well as its method of dissemination, if it is disseminated in the sense that infectious diseases are. It was therefore thought that all that we might do with our limited means was a statistical and what might be called an "epidemiological study" of the incidence of the disease in this state. To this end it has been planned that every reported case of death from cancer be thoroughly investigated, and a blank has been prepared by Doctor Sippy in which a *questionnaire* covering all important matters that might have either a direct or indirect bearing upon the disease is sent to the attending physician. It is hoped through this means to accumulate sufficient data that a study of it will develop some special line of inquiry that may be followed in the future in a further study of this disease.

In Doctor Sippy's report recommendations will be made for minor changes in one or two of the quarantine rules and morbidity reports, and their adoption is herewith recommended.

Agreeable to a resolution adopted at the annual meeting of the Association of State Health Officers, the governor has appointed a commission prayed for in the resolution, known as the Cosmopolitan Health Commission. The members of the commission are as follows: Mr. P. W. Goebel and Dr. E. J. Lutz, Kansas City; Mrs. Fannie Cooper Atkinson, Parsons; F. L. Pinet, Parsons; Judge J. C. Ruppenthal, Russell; Henry Allen, Wichita; Dr. Roy B. Guild, Topeka.

It is the purpose of this committee to study in an intensive way the sanitary organizations of the state, both local and state, to inquire into the cause and cost of preventable diseases, and incidentally to study the most approved organizations and methods for all-round public-health work in county, city and state, and to recommend to the governor, and through him to the legislature, the enactment of such legislation as will bring the sanitary organizations of Kansas into harmony and in touch with our modern knowledge of sanitation and hygiene. We bespeak the most cordial and hearty sympathy and coöperation of the State Board of Health in the work of this commission, and it is believed that the legislature will be much inclined, upon the recommendation of the governor, to adopt the findings of the commission and to enact their recommendations into law.

The distribution of antitoxins, serums and bacterins is increasing as the months go by, and particularly is the increased use of the typhoid bacterins noticeable. It is believed that the day is not far distant when people generally will be immunized against typhoid fever as universally as they are now inoculated against smallpox.

Comparisons of the incidence of certain communicable diseases occurring in Kansas with the prevalence of those diseases in what is known as the registration area is a matter of more or less pride to Kansans, with one single exception—the prevalence of typhoid fever. Typhoid fever is known as a rural disease, and it is preëminently a disease of the rural districts in this state. I am convinced that a thorough and complete sanitary survey of a single county in this state with special reference to the prevalence of typhoid fever would be highly educational as public-health workers and be of wide interest to sanitarians in general. It is therefore suggested that the State Board of Health instruct the epidemiologist and secretary to proceed with a sanitary survey of some county in the state that might be typical of rural life in its relation to the prevalence of typhoid fever. Some additional help will be needed, but it is be-

lieved that a few hundred dollars will cover the additional cost necessary to make this survey, and, by your authority, we believe such a sum would be most wisely spent.

As is generally known, a site for the State Tuberculosis Sanatorium has been chosen about two miles east of Norton. The ground has been purchased by the State Board of Control and active work is under way looking toward the erection of the sanatorium.

In connection with the tuberculosis work it gives me pleasure to advise the Board of the most excellent work that is now being carried on by the State Association for the Study and Prevention of Tuberculosis under the efficient field agency of our former visiting nurse, Miss Laura Neiswanger. A number of visiting nurses have been established in the larger cities of the state, and real progress is being made toward local tuberculosis control. This work being so closely related to the work of the Board, in recognition of that fact we have extended Miss Neiswanger the courtesy of office desk room in this department, which we trust will meet with your approval.

MINUTES OF THE FIRST AND SECOND CONSOLIDATED MEETINGS OF THE STATE BOARD OF HEALTH.

HELD IN THE OFFICE OF THE SECRETARY, AT TOPEKA, KAN., THURSDAY, DECEMBER 11, 1913.

Owing to the lack of appropriation and consequent inability to have the four quarterly meetings as provided by law, the first and second consolidated quarterly meetings of the State Board of Health were held in the office of the secretary, Thursday, December 11, 1913, the president, Doctor O. D. Walker, presiding.

Upon roll call all the members of the Board were present except Drs. W. O. Thompson and J. S. Cummings. All the members of the advisory board were present except Dr. R. S. Magee and Professor Blackmar. Of the conferees, Messrs. B. L. Thompson and W. F. Jackson were present.

The minutes of the annual meeting of June, 1913, was read and approved and ordered placed on file. The report of the secretary was then read, after which a general discussion of the report followed.

Upon motion the secretary was instructed to issue certificates to interstate carriers under amendment to article 3, paragraph 15, of the General Regulations of the Treasury Department, certifying to the wholesomeness of the waters used upon such interstate carriers, certificates only to be issued to such interstate carriers where it is certified by the State Water Survey Laboratories of their having paid the fee for the examination and analyses of such waters used as provided by the State Board of Administration of Educational Institutions.

Upon motion the secretary was instructed to write to the packing companies concerning the completion of physical examinations of employees handling meat and meat products which had not yet completed such examinations.

Upon motion the secretary and the epidemiologist were instructed to make a thorough and complete sanitary survey of one county in Kansas for the purpose of determining as near as possible the rural conditions in the state, particularly in the relation they bear to typhoid fever and to general sanitation and hygiene.

The report of the epidemiologist was then read, whereupon the secretary was instructed to address a letter to the boards of county commissioners requesting that greater care be made in the selection of the county health officers to see that qualified men are selected, that the practice of letting out the office to the lowest bidder be discontinued, and that ample ways and

means be supplied for the proper conduct of the county board of health.

Upon motion the following resolution was adopted and ordered to be published in the official state paper:

Resolved, That after January 1, 1914, all cases of pertussis or whooping cough, varicella or chickenpox, and epidemic parotitis or mumps, be included in the list of diseases required to be reported by the attending physician.

Be it further resolved, That in the belief that in all cases of communicable disease the public is entitled to such notice of same that individuals may be enabled to avoid exposure to infection, all premises in or on which cases of typhoid fever, infantile paralysis, whooping cough, chickenpox or mumps occur, shall be placarded as are other diseases mentioned in the quarantine law. Any person afflicted with any of these diseases is prohibited from attending school or other places of public assemblage.

Be it still further declared, That three weeks or twenty-one (21) days shall be held to constitute the minimum limit of quarantine in cases of infantile paralysis, or such longer period as may in the judgment of the health officer be deemed necessary.

At this point a general and somewhat lengthy discussion took place concerning the proposition of adopting a definite recommendation and instructions concerning communicable diseases. After each one's views were given and certain alterations made, general instructions concerning communicable diseases were unanimously approved and ordered to be printed in the special bulletin for that purpose. (See special BULLETIN.)

The report of the engineer was then read, covering the progress of the work in the division of water and sewage since the last annual meeting. Definite recommendations concerning the water supplies at Lawrence, Fort Scott, Burlington, Holton, Emporia, and Blue Rapids were made, and after a general discussion, a motion was unanimously adopted instructing the attorney for the Board to draw up an order, under the provisions of the water and sewage law, to prevent the Lawrence Water Company from the further use of the Kansas river water as a source of domestic supply.

The report of the assistant chief food and drug inspector was then given, and it was recommended that certain federal food inspection decisions be adopted as a regulation by this Board to apply to foods and drugs sold in Kansas. Upon suggestion, this proposed regulation was referred to the conferees of the Board present, Messrs. Jackson and Thompson, to look over and to suggest such alterations or changes as they thought desirable. The conferees retired from the room, and upon returning and making their report the regulation proposed was adopted and ordered to be printed in the official state paper as regulation No. 31. (See special BULLETIN.)

Professor Sayre then offered the following resolution which, upon motion, was unanimously adopted:

Moved that a committee of five be appointed, two of which shall represent the pharmaceutical profession and the third the medical profession, which shall take up for consideration and report at the next meeting of the Board, with recommendations, if possible, upon the subject of the proper control of medical fakes, looking toward some future legislation in the state of Kansas.

An oral report was then made by the bacteriologist covering the work since the annual meeting.

The report of the state registrar was then made, which is as follows:

To the State Board of Health:

GENTLEMEN—I have the honor to submit the report of the vital statistics division, as follows:

MARRIAGE LAW.

There have been reported to this office the issuance of 9768 marriage licenses since the law became operative on April 30, and the following income has been received:

April	\$21.00
May	618.00
June	806.00
July	588.00
August	619.50
September	792.00
October	755.50
November	684.00
Total	\$4,884.00

From the fund thus created the following amounts have been expended:

Postage	\$450.00
Traveling expense	75.70
Office supplies	239.84
Repairs	17.89
Salaries	2,440.38
Total	\$3,223.81

This leaves a balance in the fund at the present time of \$1660.19, against which come the December expenses.

It will be seen, therefore, that this division of the work is entirely self-supporting.

The amendment made to the vital statistics law by the last legislature in increasing the number of registrars from 491 to about 1520 presents quite a serious problem in the work. I am inclined to think, however, that we are securing a somewhat better report of deaths, but have lost considerably in our reports of births. This is due to the fact that physicians do not know where to report. The average township clerk is a more or less obscure figure in the community, and in the case of a physician located in the corner of a county, and practicing possibly in four different counties and possibly in fifteen or twenty different townships, it can readily be seen that it is quite a difficult problem for him to know in all cases to what registrar he should report his births.

We are working very diligently in an endeavor to secure an improvement in these reports, and it is possible that we may improve conditions some.

The increased number of registrars, however, and the registration of marriages has very largely increased the work of this division. With the beginning of the marriage law we added one additional stenographer and clerk, but it is found, even with this additional help, that we are not able to properly care for the work, and it is the intention of the division to shortly add another clerk.

For the year 1913, up to and including the month of October, there has been reported 15,308 deaths, as against 14,462 for the same period of 1912. This is an increase of 846, and increases the death rate for the year to 10.8 per 1000, as against 10.2 for 1912.

There have been reported 29,288 births, as against 31,016 for 1912. This is a decrease of 1728 for the year.

The division has recently undertaken the work of collection of morbidity statistics, which work may properly be done in this division.

Respectfully submitted.

W. J. V. DEACON, *State Registrar*.

At this point Doctor Lerrigo introduced the following resolution which upon motion was unanimously adopted:

Resolved, That since the department of vital statistics is no longer restricted by lack of funds from paying its registrar a salary in some degree commensurate with the work required and efficiently given, the Board hereby directs that beginning January 1, 1914, the salary of the registrar be increased to \$2400 per annum.

Upon the suggestion of the secretary a motion was made and unanimously adopted that the president appoint a committee of three to present to the Board at its next regular meeting rules and regulations covering railway sanitation, with the suggestion that such rules be adopted as will as nearly as possible be in uniformity with those adopted by the northern tier of western states in December, 1912.

Returning to the room, Mr. Welch then presented an order on the Lawrence Water Company, which upon motion was unanimously approved, and the secretary was instructed to serve the order upon the Lawrence Water Company without delay. The order is as follows:

WHEREAS, After investigation it has been determined that the water furnished the public for domestic and drinking purposes by the Lawrence Water Company at Lawrence, Kan., is unhealthful and unsanitary and liable to affect the health of the users thereof, and it appears that said unsanitary quality of said water is due to the fact that a part of said supply is taken by the said Water Company from the Kansas river; and

WHEREAS, It is necessary, for the purpose of protecting the health of the citizens of Lawrence, Kan., and the students of the University of Kansas, that the source of the supply of the water furnished by said water company is changed:

It is therefore by the said State Board of Health of Kansas ordered and ordained—

First, That from and after thirty days from receipt of this order said Lawrence Water Company, its officers, servants, agents, representatives and successors, be and they hereby are prohibited from taking water from the Kansas river, and from furnishing any such water to any of its consumers for domestic use; provided, that in case of fire water may, when necessary for fire protection, be taken from the Kansas river, but only in such quantity as may be absolutely necessary for fire protection.

Second, For the purpose of making this order effective it is further ordered that from and after thirty days from receipt of this order all

pipes and connections of every kind from the Kansas river to the said water plant be kept closed, and it is hereby made the duty of the said water company, its officers, servants, agents, employees and successors, to keep all of said pipes and connections closed, and all persons are hereby prohibited from opening the same, except at such times as may be necessary to provide fire protection as hereinbefore provided.

Third, It is hereby made the duty of the engineer of the State Board of Health, after thirty days from receipt of this order, to see that said pipes and connections when closed are sealed and kept sealed, so that the same can not be opened without breaking the seal, except at such time when it is necessary to open the same for fire protection, as hereinbefore provided.

Fourth, The secretary of the State Board of Health is hereby directed, without delay, to serve upon the water company a true and correct copy of this order.

A confidential letter to the secretary from a lady who desires to place at the disposal of the State Board of Health certain funds at her death, to be used for the study, prevention and cure of tuberculosis, was then presented to the Board, whereupon Mr. Welch, the attorney for the Board, was requested to determine under what conditions such bequest could legally be received.

Upon motion the secretary was voted two months' leave of absence to accept the invitation from the state of Illinois to undertake the organization of the sanitary forces for the control of the food and dairy work in that state, if the same met with its approval and the approval of the governor.

Upon motion the State Board of Health expressed the Board's thanks to the Board of Administration of Educational Institutions for voting the sum of \$300 to continue the experiments inaugurated by the State Board of Health to inquire into the cause and dissemination of the mysterious disease, pellagra.

Upon motion Mr. Welch was instructed to rewrite Regulation No. 13 concerning the screening of slaughterhouses, which was afterwards unanimously adopted. (See special BULLETIN.)

No other business appearing, upon motion the meeting adjourned.

The following bills were audited and allowed:

O. D. Walker, M. D.	\$17.76
Jessie Thomas Orr, M. D.	12.05
Prof. Grandville R. Jones	2.98
C. A. Haskins	2.63
Prof. L. E. Sayre	4.78
V. C. Eddy, M. D.	28.92
Clay E. Coburn, M. D.	7.70
C. H. Lerrigo, M. D.	5.00
Prof. W. F. Jackson	11.45
Prof. E. H. S. Bailey	4.73
W. D. Hunt, M. D.	9.48
Fred Hesser	2.14
B. J. Alexander, M. D.	11.09
J. T. Willard	6.26
C. D. Welch	22.48
B. L. Thompson	4.78
Efficiency conference:	
Prof. G. N. Watson	\$2.41
Prof. E. H. S. Bailey	4.28
Prof. C. A. A. Utt	6.08
Prof. Walter S. Long	2.66
F. W. Bruckmiller	1.78
Prof. L. E. Sayre	3.78

SECRETARY'S REPORT.

ANNUAL MEETING OF THE STATE BOARD OF HEALTH,
HELD IN THE OFFICES OF THE SECRETARY, IN THE STATEHOUSE,
JUNE 5 AND 6, 1914.

Gentlemen of the State Board of Health and of the Advisory Board:

For the biennium ending June 13, 1911, the appropriation for the quarterly meeting of the State Board of Health, as prescribed by statute, was found to be inadequate to pay the expense of four meetings per year, and thus for the past two years but three meetings annually were held. A recommendation was made to the last legislature that our appropriation for the State Board of Health meetings be increased from \$1000 to \$1200 annually in order that four meetings, as provided by law, might be held. Instead of an increase in the appropriation, the amount was actually reduced to \$750, and thus it is only possible to hold two meetings annually. This annual meeting, therefore, must take the place of the third and fourth quarterly meetings.

The work of the Board for the past year has been along much the same lines as the previous year. The increased volume of work coming to this department, coupled with the decreased appropriation, has made the work at times burdensome to all of us who are employed in the office, and has interfered with the consummation of some of our plans for extending certain lines of work, particularly along the lines of investigation, which we had hoped to be able to accomplish during this present biennium.

The expense incident to research work, conducted jointly with the University, as to the cause of pellagra, for the past year has been assumed by the University, and thus important work, which at one time it seemed that it would be necessary to abandon, has been continued, although this work too has been much crippled by reason of insufficient funds. We trust that we may have the coöperation of the entire Board during this coming legislature, to the end that the reduction in the amount of our budget may not only be restored but be increased to a point commensurate with the amount and importance of the Board's work.

DIVISION OF WATER AND SEWAGE.

The engineers of the State Board of Health have been kept extremely busy during the past year with the work relating to the enforcement of the water and sewage law. A considerable number of new waterworks and sewerage systems have been installed in the state, but greater activity has been made in the matter of betterments and extensions, all of which work requires the approval of the State Board of Health through this division of its work.

It is a matter of commendable pride to the Board that most of the cities in Kansas now have a wholesome and efficient water supply. The few remaining cities whose supplies do not conform to a standard of wholesomeness or safety will be brought to your special attention by our engineer in the submission of his annual report.

Since the last meeting of the Board an order was issued on the Lawrence Water Company to improve the quality and quantity of its supply. Owing to a serious shortage of water, the company began to pump into their mains unpurified river water to supplement their ground-water supply, and thus the water served to the citizens of Lawrence and to the students at the State University became unsafe for domestic use.

The connection between the water plant and the Kansas river has been closed and sealed with the seal of the State Board of Health and at stated intervals has been examined by one of our engineers. This order of the Board has, in effect, resulted in the company's securing an additional source of water supply by putting down two large wells, and it is believed that this additional supply will preclude the necessity of resorting to the river to augment a decreased supply during dry weather.

The city of Hutchinson has not yet complied with the order of the Board concerning the sewage pollution of Cow creek, and it is recommended that the Board by resolution call upon the governor and the attorney-general for an enforcement of this order.

Since the last quarterly meeting of the Board the assistant chief food and drug inspector, Mr. Floyd Tilford, has severed his connection with the division, and Mr. Leon A. Congdon has been selected by the chief inspector as his successor, upon the affirmative vote of the members of the Board by mail.

Mr. Congdon comes to the service with a record of splendid training and experience under Prof. E. F. Ladd, of North Dakota. He received his college education in Syracuse University, with the degree of bachelor of science. As stated, his appointment was recommended by the Board by mail, and their action should now be officially confirmed.

DIVISION OF VITAL STATISTICS.

The first biennial report of the division of vital statistics was printed in the March BULLETIN, to which the Board is referred for specific information as to vital data during the past two years. Mr. Deacon will give a detailed report of the work of the division.

One of the chief occurrences of interest in this division was the announcement by the Extension Division of the State University that an extension course in vital statistics and demography would be given by the University upon the payment of a fee of five dollars. The assignments for lessons and grading were furnished by the state registrar. The course was suggested by the State Board of Health and was designed to increase the interest in and efficiency of the work of the local registrars and health officers. So far as is known, this is the first time that an extension course in vital statistics has ever been attempted.

DIVISION OF COMMUNICABLE DISEASES AND SANITATION.

The chief of this division, Dr. J. J. Sippy, as epidemiologist, has conducted a sanitary survey of the city of Belleville since our last meeting, while the Department of Sociology of the State University conducted a social survey of the city at the same time.

A rural sanitary survey of Sumner county is now under way, and it is hoped that much valuable data may be gathered through this survey and much good accomplished. The instance of rural typhoid fever in Sumner county has been unusually high for a number of years, and it is for the double purpose of gathering rural sanitary data and of solving a real local problem that Sumner county was selected for this survey. Four college boys and one college professor, under the immediate supervision of our epidemiologist, are working in the county, and we believe that some very valuable information, not only to the people of Sumner county but to the state at large, will be secured. It is just such searching and careful studies of local conditions that are designed to be of lasting benefit to a community.

We physicians know that the first essential in the treatment of disease is to make a careful and correct diagnosis, after which the remedial measures are more clearly indicated and easier of application. We find that this is also true in our efforts to solve problems in sanitation—the foci of infection must first be discovered, pointed out, and the remedy or remedies be applied before real progress toward suppression of disease may be expected.

Doctor Sippy will give a detailed report of the Belleville survey and of the progress of our statistical study of the incidence of cancer in this state.

During the past year the following amounts, in units, of diphtheritic antitoxin were distributed through our 280 depositories to the indigent poor of the state: 145 M units, 111 3-M units, 219 5-M units—a total of 475 packages, or 1573 M units, at an expense of \$803.25, leaving a balance on hand of \$696.75 in the antitoxin fund from the \$1500 appropriation. It is recommended that this balance be used for the purpose of purchasing smallpox virus to be distributed in the same way and under the same conditions attending the distribution of diphtheritic antitoxin. It is also recommended that the remaining balance from the antitoxin fund be utilized to provide for the sending of a free package of silver nitrate to every practicing physician in the state for the purpose of preventing ophthalmia neonatorum.

In February of this year a representative of the Commission of Indian Affairs made an inspection of Haskell Institute, at Lawrence, to determine the number of cases of trachoma. The investigation indicated that 42 per cent of those in the institution were suffering from this disease, and he remained in Lawrence for several days treating the cases. He afterwards made an inspection of several public schools located on or near the Indian reservations of this state. I requested him to submit a written report of this investigation, which he very kindly did, a copy of which is herewith submitted for your information:

"HORTON, KAN., February 20, 1914.

"To the Commissioner of Indian Affairs, Washington, D. C.:

"SIR—I beg to submit the following report of my findings as regards trachoma among the school children of the Kickapoo Indian Agency. No accurate record has been kept of findings of adult Indians. The tribes represented are the Kickapoos, Pottawatomies, Iowas, Sac and Fox:

	White.	Indian.
Kickapoo Boarding School:		
Number examined	78	
Number cases trachoma		60
Nemaha Day School:		
Number examined	8	19
Number cases trachoma	4	14
Sac and Fox Public School, Nebraska:		
Number examined	10	17
Number cases trachoma	7	15
White Cloud, Kan., Public School:		
Number examined	*100	10
Number cases trachoma	12	2
Rulo, Neb., Public School:		
Number examined		11
Number cases trachoma		5
Total number Indian children examined		133
Per cent of trachoma found		72
Number operated on for trachoma		10
Number under treatment for trachoma		78

Very respectfully,

_____, Asst. Phys. Indian Field Service."

It is recommended that Doctor Magee, a member of the Advisory Board and a specialist on diseases of the eye, be detailed, together with the epidemiologist and the secretary, to make a searching investigation as to the prevalence of trachoma in the Indian reservations in this state and in the schools adjacent thereto.

* Examined only those in primary grade.

DIVISION OF EDUCATION, PUBLICITY AND RESEARCH.

To this division has been charged a considerable number of slides, which we have advertised to loan to any person in Kansas who will give a free public-health lecture. There has been a generous response to this announcement, and we have had most of the time a waiting list of persons who wish to secure the slides.

A committee appointed by the State Medical Society, known as the committee on health and public instruction, has agreed to join hands with the State Board of Health in inaugurating a lecture bureau service, which committee, together with certain of our experts at the University and the members of the State Board of Health, will give us a lecture bureau service with some thirty or forty lectures, by which we will be able to supply any demand for lectures on public-health topics.

I trust that this arrangement will meet the approval of the Board, and that they, together with the committee, will stand ready to sacrifice an occasional day of their time to give a public-health lecture at such places as may call for this service. Announcement will be made of this course of lectures in the *BULLETIN* in the near future. There is an increasing demand upon this department for public-health lectures, and an unusual number have been given during this past spring." Doctor Sippy and Mr. Deacon being called upon to assist the secretary in what I believe to be tremendously important work.

THE PROPOSED NEW DIVISION OF CHILD HYGIENE.

At a recent meeting held in Representative Hall a Kansas branch of the national organization of Mothers and Parent-Teachers' Association was formed. Among the prominent committees established was one on child hygiene or child welfare. Before the meeting adjourned the organization passed a resolution calling upon the State Board of Health to establish a division of child hygiene as a part of the Board's activities, and pledging their united and enthusiastic support in molding public opinion all over the state to that end. A committee was appointed with that express end in view, and a campaign is now under way throughout the state in an effort to bring about their desires in this direction.

At a meeting of the State Good Citizenship League, held in Emporia, resolutions were passed asking the next legislature to create a division of child hygiene in the State Board of Health, and at a meeting of the State Federation of Women's Clubs at Wichita a similar resolution was adopted, and in each instance, also, coupled with that resolution was made a demand that at least two per cent of the total state appropriations be devoted to State Board of Health work. It seems, therefore, that a vigorous and determined effort on the part of the organized women of the state to see that the Board of Health is supplied with the ways and means to properly conduct the work before it; and that in addition to its present activities this new and important division of child hygiene be added thereto, merit definite plans along this line being submitted for the Board's consideration, which will be done at our next meeting.

CONCLUSION.

Taking it all in all, the fiscal year just drawing to a close has been a very satisfactory one from a public-health standpoint. There have been no great epidemics to ravage our people, nor has the general death rate increased, but to the contrary the incidence of preventable disease in this state is markedly less than that in the registration area, with one possible exception, namely, that of typhoid fever, that being but a shade under the average of the registration area. It is because of the wide extent of typhoid fever among the rural districts that it is desirable, and even necessary, that every county in the state have an inventory at the earliest possible date, and to that end we bespeak your influence in securing adequate appropriations at the next meeting of the legislature.

On May 5 and 6 we held what we call our "First Efficiency Conference" of the various working forces of the State Board of Health, the laboratory workers of the University and of the State Agricultural College coming to Topeka to join with our office and traveling force in a two days' session, when topics of current and mutual interest were discussed. It is believed that the conference was of great value in bringing about a broader vision of the importance of the work and affording a realization that each one is, in a sense, responsible for the success of the whole or entire Board of Health work, and not that he is an individual unit in a single division with no concern in what the other divisions are doing. It seems strange, too, that there were those in attendance who had never met certain other members of the Board of Health before, so that this "get-together" movement, to get the other fellow's viewpoint as well as to learn of his "kicks," was in the direction for greater efficiency and better team work for the department as a whole.

The program of this conference is herewith submitted:

OPENING SESSION, FRIDAY, 10 A. M.

Remedies for What Ails Us. J. J. Sippy, M. D., epidemiologist.
The Quality and Quantity of Drugs and Drug Stores in Kansas. D. F. Deem, drug inspector.
Ideals vs. Facts in Public Health Work. Prof. Grandville R. Jones, consulting engineer.
Should the Inspector in His Regular Work Endeavor to Make Friends for the Department or for Himself? and When Should the Inspector's Visit Terminate? A. E. Ice, food inspector.

FRIDAY AFTERNOON.

Sophistication vs. Justification in Food Problems. Prof. E. H. S. Bailey, chemist.
Through the Eyes of the Microscope. S. E. Greenfield, M. D., bacteriologist.
Round Table. By the Chief.
The Clerk as a Cog in the Efficient Machinery of the Board of Health. S. G. Thompson, chief clerk, division of vital statistics.
The Class of Goods Most Susceptible to Deterioration in Drug Stores, and Manner of Handling this Question by Inspector. F. E. Rowland, drug inspector.
Symposium: "Kicks" on How to Do it Better. Mrs. May Conry, clerk and stenographer.
Adulteration and Public Health. W. S. Long, food analyst.
Conservatism vs. Radicalism in Food and Drug Control. Prof. L. E. Sayre, drug analyst.

SATURDAY MORNING.

The Relation of the Division of Water and Sewage to the State Board of Health Activities as a Whole. Prof. C. A. Haskins, state sanitary engineer.
The Improvements that Have Been Made in Kansas Grocery Stores During the Past Seven Years, and Expectations of Future Progress. A. G. Pike, food inspector.
Suggestions for Economy in Time, from the Standpoint of a Division Chief. W. J. V. Deacon, registrar.
Are We Actually or Inferentially Condemning Food Products that May be Safely Used for Food? Prof. J. T. Willard, food analyst.
Butcher Shops as They Should be and as I Find Them in My Rounds. Harry Bell, food inspector.

SATURDAY AFTERNOON.

The Analyst's Relation to Public Health and Welfare. Prof. C. C. Utt, food analyst.
The Stenographer's Viewpoint of Efficiency in Board of Health Work. Miss Jessie Campbell, clerk and stenographer.
The One Thing Needed in Drug Control. Prof. G. N. Watson, drug analyst.
How We Do it in North Dakota. Leon A. Congdon, assistant chief food and drug inspector.
A Word of Encouragement. Gov. Geo. H. Hodges.
A Final Word. S. J. Crumbine, M. D., secretary and chief food and drug inspector.

The fourth annual summer school for physicians and health officers will be held at the University School of Medicine at Rosedale the week beginning Monday, June 8. There promises to be a large attendance, and it is earnestly desired that as many of the Board as can attend these sessions arrange to do so. Each succeeding year the summer school becomes more interesting and more helpful to those in attendance. It is believed with the accompanying course in clinics, the laboratory work and the public-health addresses that a course equal in value to that which can be secured at any place in this country will have been offered to Kansas physicians for the mere trouble of attending.

We welcome the new members of the Board, and trust that their association with the older members of the Board and the working force of the State Board of Health may be both pleasant and profitable.

Respectfully submitted. S. J. CRUMBINE, M. D., Secretary.

MINUTES OF THE ANNUAL MEETING OF THE STATE
BOARD OF HEALTH,

CONSOLIDATED THIRD AND FOURTH QUARTERLY MEET-
INGS OF THE BOARD,

HELD IN THE OFFICE OF THE SECRETARY, IN THE STATEHOUSE, TOPEKA,
KAN., JUNE 5 AND 6, 1914.

The Board was called to order by the vice president, Dr. J. C. Cummings. Upon roll call all the members of the Board were present except Dr. W. R. Priest, and all the members of the Advisory Board were present except Prof. F. W. Blackmar and Prof. Grandville R. Jones.

The minutes of the last two consolidated quarterly meetings (first and second) were read and approved and ordered placed on file.

The secretary then made his annual report, whereupon a discussion of the same was held and the following recommendations of the secretary taken up for discussion:

Upon motion the selection of Mr. Leon A. Congdon as assistant food and drug inspector was unanimously approved.

The motion was unanimously adopted directing the secretary to use the balance remaining in the antitoxin fund for the purchase of a prophylactic solution for ophthalmia neonatorum and for the distribution of smallpox virus.

Upon motion Dr. R. A. Magee of the Advisory Board, together with the secretary and the epidemiologist, were ordered to investigate the prevalence of trachoma in the Indian and adjacent public schools, on or near the Indian reservations in this state, and to make report of result of such investigation at the next quarterly meeting of the Board.

After a general discussion the Board approved of the movement for the creation of a new division of child hygiene as a part of the activities of the State Board of Health.

The annual report of the engineer of the State Board of Health was then read, and upon motion the order requiring the analysis of every public water supply sometime during the ensuing year was renewed.

The attorney and engineer were then instructed to prepare resolutions concerning the sealing of emergency intakes of water supplies and by-passes to sewerage purification works, in order that the division of water and sewage might have more certain and direct supervision of the operation of such waterworks plants and sewerage purification works, to the end

that the public health might be conserved, whereupon the attorney presented the following resolutions, which upon motion were unanimously adopted :

WHEREAS, Certain municipalities have failed to make satisfactory reports to the State Board of Health concerning sewer systems and the discharge of sewers into the waters of the state; and

WHEREAS, Certain municipalities have failed to secure permits from this Board for extensions and additions to their sewer systems:

It is therefore ordered by the Kansas State Board of Health, That every municipality in this state operating or maintaining a sewer system shall prepare and file with the Board such information concerning said system as is set forth in the rules and regulations of this Board within three months from the date of this order.

WHEREAS, On account of the fact that certain supplies of water for use during a shortage of water and in case of emergency are often used to supplement the regular source of supply to municipalities under the permit from the State Board of Health, and are prejudicial and detrimental to public health:

It is therefore ordered by the State Board of Health, That the engineer for said Board be and he is hereby instructed to close and seal all sources of water supply to municipalities within the state which sources of supply are not approved by this Board, and that said seal shall not be broken without an order to do so from the said engineer or the secretary of said Board, except in case of serious conflagration. That in case such seal be broken, the person, company, corporation, institution or municipality so breaking the same shall notify the said secretary or said engineer of the breaking of the same immediately by telegraph or telephone.

It is further ordered, That said engineer periodically inspect such seals and keep a record of the condition of the same and report such conditions to this Board.

WHEREAS, Certain municipalities maintaining and operating sewage disposal plants discharging treated sewage into the waters of the state under permits from the State Board of Health have constructed by-pass lines for the purpose of discharging untreated sewage into said waters, thereby contaminating and polluting such waters:

It is therefore ordered by the State Board of Health, That the engineer for said Board be and he is hereby ordered to close and seal all such by-pass lines, and said seal shall not be broken without an order to do so from said engineer or the secretary of said Board. Said engineer is also ordered to periodically inspect such seals and keep a record of same.

The report of the state registrar was then made, and upon his request an auditing committee was appointed by the vice president to audit the books of the state registrar.

At six p. m. the Board adjourned until nine a. m. June 6.

ANNUAL REPORT OF THE DIVISION OF VITAL STATISTICS, 1914.

To the State Board of Health:

GENTLEMEN—I have the honor to submit the following report of the financial condition of the central division of vital statistics at this time, also covering receipts and disbursements for the year.

The marriage registration law became operative April 29, 1913. The receipts and expenditures since that time show as follows:

RECEIPTS.		
1913—April	.....	\$21.00
May	.....	618.00
June	.....	806.00
July	.....	588.00
August	.....	619.50
September	.....	792.00
October	.....	755.50
November	.....	695.50
December	.....	785.50
1914—January	.....	619.00
February	.....	600.50
March	.....	547.00
April	.....	700.50
Total receipts	.....	\$8,148.00
EXPENDITURES.		
Salaries and extra help	.....	\$6,137.88
Office supplies	.....	535.72
Postage and express	.....	856.80
Traveling expenses (examination of records, etc.)	.....	363.21
Total expenditures	.....	7,893.11
Balance on hand June 1, 1914	.....	\$254.89

The division has recently added to its force, temporarily, Mr. H. R. Tillotson, a practicing attorney and formerly county attorney of Norton county. He was selected upon the recommendation of the attorney-general, who has commissioned him as an assistant attorney-general with authority to try cases in the event that the county attorney is not disposed to render the proper service. Mr. Tillotson's duties will be to check up violations of the law and bring such prosecutions as may seem wise. He has already filed complaint in several important cases. He will receive remuneration at the rate of \$100 per month and the necessary traveling expenses for the time employed. It is intended to retain him as long as the funds of the division will warrant, and during the rendition of satisfactory service.

There has been a general complaint over the state from the probate judges that the new law is unsatisfactory in the fact that the records of the county are not complete, and the state registrar has recently undertaken to indorse upon the stubs, which are returned from the probate judges each month, the date, place and name of person performing the marriage ceremony, and returning same to the probate judges in order that their records may be complete.

The state registrar has also been invited to address the probate judges upon this subject at the annual meeting of the State Association of Probate Judges, to be held at Abilene on June 22, and it is to be hoped that we may be able to arrive at an amicable understanding that will permit the amendment of the law in such manner as will be satisfactory to all concerned.

In order to complete the vital statistics records, divorces should be included in the records. This would make a complete record of all of the vital events in human life, and it is proposed to ask the next legislature for a law providing for the proper registration of divorces.

As has been previously reported to this Board, the new law passed by the last legislature changing the registration districts is very unsatisfactory, and our birth registration has fallen off considerably due to this fact. It is to be hoped that the legislature will afford relief in this particular.

It is respectfully suggested that the attorney of the Board be requested to prepare a bill providing for the registration of divorces, and also an amendment to the vital statistics law providing for a more satisfactory arrangement for the selection of registrars.

It is also respectfully suggested that the Board appoint an auditing committee to audit the accounts of the state registrar.

Respectfully submitted. W. J. V. DEACON, *State Registrar*.

Dated at Topeka, Kan., June 2, 1914.

The Board reconvened Saturday morning, June 6, 1914, at ten o'clock a. m., whereupon the committee appointed by the vice-president to audit the state registrar's books made the following report:

The auditing committee appointed to examine the records of the state registrar beg to report that upon examination they find same to be correct.

B. J. ALEXANDER, *Chairman*.

O. S. RICH.

V. C. EDDY.

Upon motion the report was unanimously adopted.

Upon motion the morbidity regulations that were published in the January, 1914, BULLETIN were unanimously adopted.

The following regulation was unanimously adopted and ordered printed in the official state paper:

REGULATION 14.—Soda Fountain and Ice Cream Parlor Rules.

(a) Every person or persons operating any place wherein soft drinks or ice cream is sold or offered for sale shall cause the glasses, dishes, spoons and other utensils to be thoroughly washed with pure, clean water before being again used.

(b) Soda fountains and ice-cream parlors are required to have clean, potable, running water for washing utensils, glasses, dishes, dish drains, sinks, counters, etc., and said running water shall be connected with or adjacent to the soda fountain proper, or place where ice cream or soft drinks are sold.

(c) All towels or cloths used for wiping or polishing glasses, dishes, spoons and other utensils shall be clean.

Upon motion the following resolution was adopted:

Be it resolved by the State Board of Health, That the attorney of said Board is hereby authorized and empowered to represent said Board and assist in prosecutions for the violation of any order, rule or regulation of said Board, or of any law concerning public health.

Provided, That none of the appropriations of this Board shall be used to pay the fees of said attorney without the express order of said Board;

Provided further, that in case any other board or organization shall request the services or assistance of said attorney in any such matters, such other board or organization shall pay the fees and expenses of said attorney.

The business of the annual election of officers was then taken up, and resulted as follows:

President, J. S. Cummings, M. D.

Vice president, W. D. Hunt, M. D.

Bacteriologist, Sara E. Greenfield, M. D.

Engineer, Prof. C. A. Haskins.

Assistant engineer, Mr. Fred Hesser.

Consulting engineer, Prof. Grandville R. Jones.

Upon motion the entire Advisory Board was reëlected, substituting the present assistant chief food and drug inspector for his predecessor.

Upon motion the following conferees were elected on the Advisory Board: J. F. Tilford, Wichita; J. A. Kimball, Salina; B. L. Thompson, Herington.

No further business appearing, the Board on motion adjourned.

Report of Division of Communicable Disease and Sanitation, 1914.

DEPARTMENT OF THE STATE BOARD OF HEALTH,
June 6, 1914.

*Dr. S. J. Crumbine, Secretary State Board of Health,
Topeka, Kan.:*

DEAR DOCTOR—Herewith I submit annual report covering work of the Division of Communicable Disease and Local Health Organization since July 1, 1913.

Briefly the activities of this Division have been devoted to the following objects:

1. The continuation of the efforts of the past to perfect efficient local health office service.
2. A better control of communicable disease.
3. Epidemiological study.
4. Educational.

In explanation I may cover these subjects in order.

1. **LOCAL HEALTH ORGANIZATION.** In communication with the local county and city health officers, there has been little or no variation of the policy of previous years. The past year has been only the continuation of that policy, which has been the endeavor to promote a thorough feeling of interdependence between the local health office and the State Board of Health; to assist the local health officer in the performance of his duties as much as could be done by long distance coöperation; to keep him advised relative to the manner of carrying out his work according to both old and new regulations; and to offer such suggestions which might expedite this work. Above all it has been our sincere endeavor to maintain the most equable and harmonious relations, not only between this department and the local health office, but between the various local health offices as well; to make every health officer feel that he is a unit in what should be a perfect machine and that every one of the other units appreciate and depend upon his efficiency; to keep him constantly reminded that upon this efficiency depend the lives and health of the people in his jurisdiction; and to inspire that enthusiasm for better knowledge and perspective of work that will insure the most successful public-health administration.

Inasmuch as these measures have constituted the general policy of the State Board of Health for years past, it has not

been felt that much improvement can be, or has been offered during the past year. Possibly a little more freedom from other duties has enabled us to keep in more frequent communication with local health officers.

Much assistance in promoting a better feeling of *esprit du corps* has come from several local health officers throughout the state, who have been kind enough to pass around new ideas, valuable suggestions, bulletins, etc., to all other health officers. All in all it is believed that local health office service has not deteriorated and that never before in this state have we had a more cohesive, efficient organization of health officers than we have at present, and that in spite of the fact that many of these men receive practically no remuneration worthy of being called a salary. *It is to be sincerely hoped that an early legislature may come to appreciate the present inadequacy of standards and pay of health officers, and provide such changes in the present methods of appointment and fixing of salaries as will insure a still higher efficiency in local health office administration.*

2. THE CONTROL OF COMMUNICABLE DISEASE. The quarantine law of 1901 provides for the reporting and quarantine of five specifically named diseases, and such other diseases as may from time to time be declared by the State Board of Health as being dangerous to the public health. In accordance with this latter privilege the State Board of Health passed the Model Morbidity Report Regulation as recommended by the Association of State and Provincial Boards of North America and found in the January, 1914, Bulletin in which a more uniform method of reporting is prescribed, and the list of reportable diseases is increased to 51 in accordance with known scientific investigation. While this new regulation has been a little confusing to physicians and health officers, yet it is believed that it has resulted in much improvement in the gathering of reports, and will in the future simplify the subject. *It could be materially strengthened by being enacted into law, with some necessary additions and amendments.*

Under present methods reports of cases are to be made by attending physicians to local health officers.

Reports of all cases received by local health officers are to be recorded by them in their own office records and original reports are to be forwarded to this office at end of each week.

If health officers have no reports during the week, a "No Report" card is to be forwarded at end of week instead.

At end of each month the State Registrar of Vital Statistics furnishes this Division a copy of all records of all deaths from these reportable diseases occurring throughout the state. These death reports from each county are compared with the morbidity reports from that county and all delinquencies are noted. Physicians who have failed to make proper reports to the local health officer are immediately sent letters requesting explanations or reasons for their failure to report. If these reasons seem adequate, a word of warning is issued as to future failures. If they seem inadequate complaint is filed with the county attorney, either by the local health officer or a member of this division. Under this method sixteen complaints have been filed during the past year. These have resulted in 12 convictions, 1 dismissal of case, 1 failure to convict, and 2 not reported upon by county attorney.

A clipping bureau supplies local newspaper notices of all cases of communicable disease. These, too, are checked with county records, and same methods followed as in preceding paragraph.

While these methods necessitate an unusual increase in correspondence, yet it is believed that there has been sufficient improvement in reports to justify it, and that the future will reflect more and more the educational efforts of the past year.

Local health officers, and in fact public sentiment, are demanding more and more the careful isolation of cases of communicable disease. Quarantine measures and the placarding of houses in protection to the public are annually becoming more popular, and meet with less opposition. It has been the endeavor to insist upon such common sense measures as will afford the greatest protection to the public with the minimum of inconvenience to the patient and family.

It has also been found necessary to file complaint in several instances against offenders who have refused to comply with quarantine regulations, and in every instance conviction has been obtained. In all these instances complaint was filed through and by the local health officer.

As per your suggestion that some action should be taken in the prevention of blindness by the institution of a campaign against ophthalmia neonatorum, or infections of the eyes in

the new-born, arrangements are now under way for the purchase of a large number of individual dropper packages containing a one per cent solution of silver nitrate. It is planned to distribute these with appropriate suggestions and instructions to every physician and midwife in the state. Earnest coöperation by practitioners of midwifery by use of these droppers should do much to reduce this class of infections.

3. EPIDEMIOLOGICAL. During the year frequent calls have been made on this department for a representative of the Board of Health to assist certain localities in the diagnosis and control of certain diseases prevalent or epidemic in those localities. Owing to a limited traveling expense fund, it has not been possible to comply with all requests, and wherever possible, to economize, these were referred to the local health officer. Where the situation seemed to demand the presence of a representative of this department for more direct study of situations, or for reinforcing decisions of local health officers, responses to these requests were always made in person. The list following gives towns visited during the year, date of visit, and subject of investigation:

Subject investigated.	Place and date.
Anterior poliomyelitis	Wellington, July 27, 1913.
Anterior poliomyelitis	Parsons, August 4, 1913.
Anterior poliomyelitis	Holton, August 12, 1913.
Typhoid fever	Circleville, August 12, 1913.
Typhoid fever	Parsons, September 5, 1913.
Nuisance (city dump)	Fredonia, September 12, 1913.
Anterior poliomyelitis	Holton, September 28, 1913.
Tuberculosis	Paola, December 18, 1913.
Smallpox	Liberal, January 8, 1914.
Smallpox	Macksville, January 22, 1914.
Diphtheria	Hutchinson, January 23, 1914.
Smallpox	Lawrence, January 27, 1914.
Pellagra	Mayfield, February 12, 1914.
Smallpox	Allen, March 11, 1914.
Typhoid fever	Hays, April 3, 1914.
Nuisance	Minneapolis, May 21, 1914.
Typhoid fever	Strong City, May 26, 1914.
Typhoid fever	Ashton, June 25, 1914.

It was unfortunate that response to several calls was impossible owing to conflicting visits at other points. Many, many visits for study of local epidemics and outbreaks of disease should have been made, but were deferred for lack of funds. *In fact, there is no broader field of effort in the prevention of disease that is so productive of good results as the presence of a State Board of Health representative on field work, and this*

division really requires a well equipped man for exclusive road work in this line, whose time, I assure you, will be continuously employed.

The reports of the various visits recorded in this work are not included in detail in this report but may be found in issues of the BULLETIN and in files.

Along the lines of study of disease, I may say in continuation of the December, 1913, semiannual report, that the work of collecting records of all cases of malignant disease within the state is still progressing. It is not felt, however, that the number so far collected warrant reliable deductions.

A study of the cases of acute anterior poliomyelitis for the past biennium will soon be ready for publication in an early publication of the BULLETIN.

It is felt that this division has proven rather inefficient in the study and tabulation of the various communicable diseases in the state. But I hasten to assure you this has not been for want of zeal or wish to see work well done, but solely because of insufficient office assistance. *Much could be accomplished in this line by making provision for two, or even one clerk, and a full time stenographer. This study of prevailing diseases in the confines of any given area or state is necessary to the control of those diseases, and can not but prove of inestimable value to its citizens in the saving of expense for illness, loss of time and wages, and funerals. My own duties have been so varied and so numerous that I have not been able to accomplish what I should have liked in this line.*

However, the following comments and brief tabulation of the commoner diseases may be of interest:

TUBERCULOSIS.

1912. Number of cases reported, 831; number of deaths, 1085.

1913. Number of cases reported, 941; number of deaths, 1088.

The number of cases reported is a matter of some satisfaction, for while number of reports does not equal number of deaths, yet much improvement in reporting of cases is manifest, and it is believed that the larger number of cases are being reported promptly upon diagnosis. Delinquencies occurring in past few months are for the most part in cases where physicians are called only few hours prior to death. Neither must it be concluded that the mortality rate is 100 per cent, for many of these deaths occurred in cases which had been re-

ported prior to the year in which deaths occurred. During the biennium 81 recoveries have been reported. At present our files give a record of 2599 existing cases in the state. Many of these may be recovered but not reported as such.

TYPHOID FEVER.

1912. Number of cases reported, 1234; number of deaths, 345.

1913. Number of cases reported, 1301; number of deaths, 342.

The usual estimated mortality in typhoid fever is seven per cent. On this basis it is estimated that the number of cases occurring was in 1912, 4728, in 1913, 4885. As noted in December semiannual report, the fear entertained by the public of certain communicable diseases largely determines the attitude of physicians in reporting. The registration of typhoid in the past biennium is not flattering to medical professional pride. It would seem to indicate that physicians do not yet appreciate the full possibilities of flies, food, water, and chronic carriers as avenues of infection, and that interest in the disease is not confined alone to the household in which the disease occurs, but is really a community problem, of which the community must have prompt notification and information if preventive measures are to be widely instituted.

DIPHTHERIA.

1912. Number of cases reported, 715; number of deaths, 121.

1913. Number of cases reported, 655; number of deaths, 137.

In cases of all degrees, with and without the administration of antitoxin, the average mortality in this disease is estimated at 9.5 per cent. If this basis is accepted, the number of cases occurring in the state which should have been reported was in 1912, 1274; 1913, 1442. On basis of actual reports the mortality rate in 1912 was 16.9, and in 1913 was 20.9. Inasmuch as the Board of Health has been furnishing all indigent cases within the state free anti-diphtheritic serum, the use of the serum should be general and is largely so, barring individual antipathy on the part of an extremely small minority of physicians and families of patients. Consequently, it can not be assumed that the mortality rates in the state are as large as above figures would indicate, but that the real fact, and this is borne out by personal observation and knowledge, is that physicians are either not correctly diagnosing the disease, or are failing to make prompt reports. It is hoped that improvement in this later step, at least, will be noted during coming years.

Furthermore, it is a well known fact that by the universal use of antitoxin, administered both by way of treatment and as a preventive measure, it is possible to reduce the death rate of 9.5 per cent to 6 per cent, and some authorities claim even lower if used promptly and in early stages. That the free distribution of serum by the state to indigent cases, who might otherwise be neglected, has been the means of saving in the past few years several hundred lives of Kansas children, there is no room for doubt. *The appropriation for free antitoxins and serums should be continued liberally, for benefits are direct and readily computed.*

SCARLET FEVER.

1912. Number of cases reported, 1740; number of deaths, 60.

1913. Number of cases reported, 1414; number of deaths, 53.

On this basis the mortality rate for 1912 was 3.45 per cent; for 1913 was 3.74 per cent. The usual mortality rate ascribed by good authorities is 9 per cent. It is a well known fact to the medical profession that the disease throughout the state for the past few years has been, with few exceptions, of exceptional mildness. Morbidity reports are fairly complete, but it must be remembered that the addition of the 10 per cent to 20 per cent of delinquencies would still further reduce the mortality rate as given above. This was discussed in December, 1913, report.

SMALLPOX.

1912. Number of cases reported, 340; number of deaths, 3.

1913. Number of cases reported, 1087; number of deaths, 4.

Morbidity reports for this disease, for reasons above assigned, are also believed to be largely accurate. Public acquaintance and knowledge of this disease for the past fifteen years has become so general as to insure promptness. Mortality has been practically *nil*, although the seven lives sacrificed and the hundreds of cases of illness seem rather unnecessary when the simple remedy of vaccination is at hand. The free distribution of large quantities of vaccine, and free vaccinations by local health officers in fields of threatened epidemics should go far to diminish this disease. The recent purchase, for such distribution, of a large quantity of vaccine is believed to be a wise and thoughtful step. Announcement as to method of distribution will follow shortly.

MEASLES.

1912. Number of cases reported, 2457; number of deaths, 60.

1913. Number of cases reported, 7031; number of deaths, 102.

On this basis mortality rate in 1912 was 2.48 per cent; in 1913 was 1.45 per cent. The disease was pandemic in 1913, and few communities in the state escaped infection. When it is realized that only those cases are reported where a physician is employed, and even then not every time completely, it can be readily understood that the actual number of cases reported is only a small percentage of those which occurred. On the estimate that the number actually reported did not exceed 25 per cent, the number of individuals infected in 1912 would reach 9828, and in 1913, 28,124. While these unbelievable figures mean a great reduction in mortality rates above given, it must be remembered that the deaths reported to the State Registrar are only those directly attributable to the acute infection, and do not include those deaths due to post-complications. Needless to again repeat that the public does not give the disease the serious consideration it deserves.

OTHER DISEASES.

Chicken pox, epidemic parotitis (mumps) and pertussis (whooping cough), were highly prevalent during the biennium, and in the latter half of 1913 might be said to have been pandemic. The action of the Board of Health in insisting by regulation that all cases of these diseases be placarded will undoubtedly be of great assistance in the control of these infections.

VENEREAL DISEASE.

Our statistics on this subject are so few as to be of little consequence, but I can not forbear a few words on this subject.

Under the new morbidity Report Regulation venereal diseases are made notifiable with the provision that all reports of cases by attending physicians shall be made on special report card directly to the State Board of Health, and providing also that the name of patient need not be given, but only a serial number. Many reports have already come in from physicians. It was not expected that any quarantine or any publicity be attached to this procedure, and as you know, the results can only be statistical. If any practical value is attained we must be prepared to make use of them as an educational measure. The large number of these infections are spread as a result of

ignorance or innocence on the part of the infected individual, who would not knowingly spread them if he, or his physician, was positive that all danger of infection had ended. The result of this ignorance is many innocent victims, for, as you know, many a wife has been thus infected by a husband who would not have knowingly done so under any consideration. Many physicians, and indeed this is the average, have neither means, time or equipment to provide their own laboratory diagnosis in these cases, and even if they were able to do so, so many of this class of patients are either not able to or will not afford the fees demanded for this work. Obviously, the welfare of the public, of both patients and innocent persons who may suffer, demands that the state should provide adequate means for diagnosis. This can be accomplished by sufficient laboratory equipment and service which can provide free Wasserman and complement fixation tests. Our state bacteriologist is overworked under present demands, and it is to be hoped that the legislature will see fit to grant such appropriations as will enable an increase of service along lines indicated. Without it little or no headway can ever be expected to be made by this department in prevention of the ravages of the "social evil." Progress in this line depends upon the education of the individual, and primarily upon the education of the *infected* individual, whom we can only hope to reach through being able to offer such free scientific and bacteriological information which will instruct him, through his physician, when he may relax vigilance in those measures which are necessary to prevent transmissions of his infection.

Probably two of the most important studies undertaken in the past six months has been the sanitary survey of a representative city and county in the state. As a basis for the study of the causes of typhoid fever it was felt this study was the first essential.

Accordingly during the month of March in coöperation with Professors Blackman and Burgess of Kansas University a sanitary and social survey was made of the city of Belleville in Republic county. The result of this study is now in process of publication.

Realizing that the larger proportion of typhoid infections in the state occur in the rural population it was felt that our observations were not complete without a similarly conducted survey of some representative county in the state. On ac-

count of promises of assistance by the commercial clubs of its several towns the county of Sumner on the south line of the state has been selected and the work is now under way. Assistance in conducting this, was secured through the employment of Professor J. Risser, of Washburn University, Topeka; Messrs. Crosby Deacon, M. G. Miller, Morris B. Sanders of Washburn, and Henry J. O'Brien of Kansas University. F. E. Rowland, state drug inspector and A. E. Ice, state food inspector, have also rendered assistance. It is hoped that this work when completed will prove a working basis for an effective anti-typhoid campaign.

The work of conducting the survey in the distribution of educational literature to each householder, in directing his attention to insanitary conditions on his premises, in the analysis of his drinking water supply, is in itself preventive of much sickness. *It is my full belief that a similar campaign extended county by county in real anti-typhoid fighting, and that money so expended is splendid economy if the health of Kansas citizens is the object of conservation. It is further sincerely hoped that our legislature may see fit to set aside a sufficient appropriation for this purpose.*

4. EDUCATIONAL. In correlation with the work of other divisions, all efforts are primarily directed toward public health education. In addition to other activities of this division I have been able to respond to twenty-six invitations to deliver health lectures during the past year. These have included lectures to the general public, to commercial clubs, and to medical societies. This class of lectures are becoming increasingly popular. The public is avid for information on health topics and the opportunity for dispensing such knowledge is, I believe, one which should never be neglected by public health officials.

Lectures to medical societies have of course been directed to promoting more friendly relations between physicians and the State Board of Health, and to inculcating a better understanding of new regulations in regard to quarantine, the reporting of births and deaths, and morbidity statistics.

It is to be hoped that yourself as executive officer and the State Board of Health as a whole, will feel that the funds of this division for the past year have been appropriately expended.

Respectfully,

JOHN J. SIPPY, M. D., *Epidemiologist.*

Annual Report of the Division of Water and Sewage to the State Board of Health.

By PROF. C. A. HASKINS, Engineer State Board of Health.

The work of the Division of Water and Sewage has been increasing from year to year and the past year has been no exception, a much larger volume of work than ever before having been done. The number of cities visited by the engineers for water works advice, either on proposed plants or improvements for plants already built was 89; the number of cities visited for giving advice on questions of sewerage or sewage disposal was 36; the number visited for the collection of samples of water used on railway trains was 36, or a total number of 161. This includes visits made more than once to some cities.

There were 16 waterworks plants built during the year, some of these started before June 1, 1913, which are in operation now—others started since that time, but not yet in operation. The following are those cities, with a description of the supply:

1. Burlingame—Source of supply at Burlingame is Dragoon creek. The water is filtered through a modern rapid sand gravity filter of the New York Continental design. There is one bed, with a capacity of 250,000 gallons daily.

2. Cimarron—Water secured from the third or soft underflow of the Arkansas river.

3. Douglass—Water to be taken from the Walnut river and filtered through a rapid sand gravity filter of the New York Continental Jewell design.

4. Esbon—Water to be secured from shallow wells.

5. Highland—Water to be secured from shallow wells.

6. Jetmore—Water to be secured from shallow wells.

7. Jewell City—Water impounded by dam across a local creek and filtered through a modern rapid sand gravity filter of the Pittsburg Filter Co. design. This plant was tested in January and gave very satisfactory results.

8. Kanopolis—Water to be secured from shallow wells.

9. Madison—Water secured from shallow wells in Verdigris valley.

10. Moline—Water to be secured from a large dug well with infiltration galleries extending into the water-bearing stratum.

11. Nickerson—Water to be secured from the third or soft underflow of the Arkansas river.

12. Oxford—Water to be secured from the shallow underflow of the Arkansas river.

13. Sedgwick—Water to be secured from shallow wells in the bottom of the Little Arkansas river.

14. Strong City—Water to be secured from a shallow well in the Cottonwood river bottom.

15. Turon—Water to be secured from shallow wells.

16. Westmoreland—Water to be secured from a large dug well.

The following cities are considering the construction of a waterworks plant, and have been visited by a representative of this department. None of these cities have yet definitely decided whether or not a plant will be built, although in some cases bonds have been voted :

1, Alton ; 2, Arma ; 3, Atlanta ; 4, Canton ; 5, Colony ; 6, Eskridge ; 7, Goffs ; 8, Lebo ; 9, Moran ; 10, Natoma ; 11, Randall ; 12, Riley ; 13, Robinson ; 14, Kincaid.

The following ground water plants have been improved, under permission recommended by this department. Most of the improvements made here are the direct result of the work of this department.

1. Belleville—In 1912, the city of Belleville abandoned their large dug well and sunk three driven wells to the Dakota sandstone, about 150 feet deep. On account of structural defects, these wells have not furnished satisfactory water. An investigation by Mr. Hesser, it is thought, has located the difficulty. Steps are being taken at present to remedy it.

2. Blue Rapids—The water supply of Blue Rapids was not satisfactory from analyses made in the State Water Survey Laboratory, and upon investigation it was decided that the trouble came from the large uncovered reservoir which furnished pressure to the city. A cover was designed in this office for the reservoir.

3. Caldwell—The order issued by the State Board of Health in its last annual meeting to the city of Caldwell to have plans and specifications prepared for either treating the surface water supply from Bluff creek, which they were using at that time, or to develop a ground-water supply, brought about the desired result. Several new wells have been driven in the im-

mediate vicinity of the old plant, and at present a sufficient quantity of water is being secured from them.

4. Coldwater—A permit has been granted to the city of Coldwater for connecting up its various wells with a brick tunnel, for the purpose of affording access to the suction line. Several extensions to the mains were also made.

5. Florence—An order signed by the secretary to the engineer and the private company owning the waterworks plant at Florence, asking that the well be cleaned out and re-covered and that the stand pipe be covered has been obeyed, and satisfactory water is being furnished.

6 Goodland—An application is on file, which has not been acted upon, for a permit to drill additional wells for the city of Goodland, and to extend the distribution system. We are waiting, at present, upon a report.

7. Harper—The well at Harper was deepened considerably during the last dry season. The city of Harper supplied the Santa Fe railway, and several other cities in its immediate neighborhood last summer.

8. Herington—A permit has been granted the city of Herington to develop a new supply of water from the Cole and Will springs, a few miles outside of the city. These springs were developed according to the latest approved methods, and it is believed that a sufficient supply of relatively soft water will be secured.

9. Kingman—Steps are being taken at present to develop additional springs to supply the increased consumption of that city.

10. Lawrence—The order issued at the December meeting of the State Board of Health on the city of Lawrence, requiring the engineer to seal the valve on the suction line from the plant to the river, brought about the desired results. This spring, when the ground-water supply began to fail, permission was asked to pump water from the river. This was denied, and the company has decided to dig two new wells into the sand and gravel from which the original supply is taken. One of these wells is about completed and the other well under way. It is hoped that a sufficient supply will be developed.

11. Medicine Lodge—Extensions were made to the collecting system of the Medicine Lodge waterworks and a reinforced concrete pressure line has been built from infiltration galleries above the city to town.

12. Sabetha—Additional wells have been drilled by the city of Sabetha on account of the shortage of water during the past summer.

13. Smith Center—The infiltration galleries of reinforced concrete begun by the city in 1911 have at last been finished and a sufficient supply of water has been developed.

14. Topeka—The city of Topeka has been making investigations for a ground-water supply. It is understood that a deep well struck a vein of salty water.

15. Wellington—The investigations for ground water at Mayfield, a few miles west of Wellington, have shown that a suitable water may be secured from that point, but the wells have not yet been turned from the contracting company to the city because a sufficient supply has not yet been developed.

The following surface water supplies have been changed during the past year:

1. Burlington—The city water from the Neosho river for the city of Burlington is now filtered through a modern rapid sand gravity filter of the New York Continental Jewell type, which was tested by this department last month. Excellent results were obtained.

2. Chanute—The modern, rapid sand filter plant has just been finished at Chanute. This plant is of the Pittsburg Filter Co. type, and was tested during the latter part of May by this department. Excellent results were secured.

3. Coffeyville—The supply for the city of Coffeyville from the Verdigris river is now filtered through a modern rapid sand filter of the New York Continental Jewell type. This plant was tested in October, 1913, by this department, and various analyses have been made since that time. The plant is giving excellent results.

4. Cottonwood Falls—Plans have been approved for a modern filter plant of 250,000 gallons daily capacity for the city of Cottonwood Falls, water to be taken from the Cottonwood river. This is to take the place of a well supply from the Cottonwood river bottom, which in turn took the place of the spring supply developed by that city in 1910. Both of the other supplies have not furnished sufficient water.

5. Council Grove—The private company operating the Council Grove waterworks has secured a permit from the State Board of Health and the plans and specifications have

been submitted for a modern rapid sand filter plant of the New York Continental Jewell type, to take the place of the old pressure filter plant which has been giving poor service since 1887.

6. Fredonia—Application has been made from the city of Fredonia for a permit to move their present waterworks plant to a point three-quarters of a mile below its present location on the Fall river; to treat the water by means of sulphate of alumina and hypochlorite of lime, and to build a new filter plant within two years. The large settling basin which furnishes also domestic pressure to the city is located on a high hill about one mile directly west of the city, and it is proposed to treat the water with a coagulant before it enters this basin, and to treat it with hypochlorite of lime just as it leaves the basin. It is hoped that the filter plant for this city will be built as promised.

7. Garnett—The supply of water at Garnett from Crystal lake, which has a very small drainage area, is to be augmented in the future by water from a creek, with a much larger drainage area. The water is to be pumped from a point about three miles away into Crystal lake, and from this point will be passed on to their present filter. The filter plant is being improved by the construction of a coagulating basin device.

8. Independence—A modern rapid sand filter and two new settling basins have been built for Independence, to take care of the supply from the Verdigris river, and the plant was tested by this department last week. Very good results were obtained.

9. Marysville—The old polluted ground-water supply for the city of Marysville has been abandoned by the private company operating the waterworks plant, and a new supply from the Blue river filtered through a modern rapid sand filter of the Pittsburg Filter Company type is now under construction.

10. Olathe—An additional supply of water for the city of Olathe has been obtained by damming a small creek three miles out of the city and pumping into the large reservoir, which has formerly been the sole supply. The water is to be filtered through a modern rapid sand filter of the Pittsburg Filter Company type. This plant is almost completed. During the past summer, Olathe was without water entirely and shipped in water from Kansas City, Mo., at a very heavy expense.

11. Washington—The ground-water supply of the city of Washington has been abandoned, on account of lack of water and a new supply of impounded water from Mill creek will be substituted. The water will be filtered through a modern rapid sand filter. Contracts are to be let next Monday for this plant.

12. Holton—This city has been experiencing a water shortage for the past few years each summer and has at last decided to develop some springs a few miles out of the city. There is grave doubt whether or not a sufficient supply can be secured from these springs, but on account of the opposition to a filtered water supply from an impounded reservoir on the edge of the city, it has been thought best to attempt this development.

The following waterworks plants are being studied with the consent and coöperation of the city officials to determine what is necessary for bringing the plants into such shape that sufficient water may be furnished:

1. Emporia—The city of Emporia, at present, is supplied with water from the Neosho river, which is pumped into two large settling reservoirs on the top of the hill northwest of the city. The treatment given this water is not adequate and it is hoped that a filter plant can be constructed there in the near future. However, there is considerable objection to the use of the Neodesha river water on account of the fact that the supply from this source gets very low in the summer. The question under consideration is, either to construct a series of dams above the city and use the present development in the construction of a new plant, or to move entirely to the Cottonwood river on the south side of the city and build a complete new plant. A representative of this department accompanied the city engineer of Emporia, a short time ago, on a tour of inspection of some filter plants, and it is hoped that in the near future some definite steps will be taken by the city.

2. Fort Scott—The present supply for the city of Fort Scott is taken from the Marmaton river and passed through a series of large settling basins. Inadequate treatment has been given this water in the past and an investigation by a new set of city officials in conjunction with this department, is being made at the present time. The great objection to this plant is that water used for fire protection can not be passed

through the settling basins, and when fire pressure is needed, raw water from the river is pumped directly into the mains. Also, there is one section of the city too high to be served by water from the basins and raw water is furnished to it at all times.

3. Pleasanton—During the past summer, the city of Pleasanton made an investigation for ground water near the present surface water plant, but a very unsatisfactory water was secured in a deep well. The drainage area for the present impounded supply is not great enough to furnish a sufficient supply of water. An investigation by a representative of this department resulted in the recommendation that shallow wells be drilled in the valley of the Marais des Cygne river about three miles north of town and a supply from this source developed.

4. Ottawa—The city supply for Ottawa is taken from the Marais des Cygne river and passed through settling basins, treated with lime and iron, afterwards with hypochlorite of lime. An investigation of the methods of treatment has been made and certain recommendations as to changes have been made. It is hoped that this will result in better water for the city.

5. Parsons—The supply for the city of Parsons is furnished by a private water company. It is pumped from Little Labette creek, ordinarily, into a coagulating basin holding about three hours supply, from which it is passed on to rapid sand filters of a very antique type. These filters are not equipped with modern equipment, and a very unsatisfactory water has resulted. A test was made on this plant last fall by representatives of this department and a report made, with recommendations for improving the plant. These recommendations have been partially followed, but not enough to insure a safe supply of water. It is hoped that the other improvements will be made at an early date.

The following cities have supplies of surface water which are not sufficient, at certain seasons of the year. None of these cities have shown any inclination to improve the supply. They are all municipally owned, except the Yates Center plant. These cities will receive the attention of this department during the coming year, in addition to those which are being constructed at present, with a view to securing some improvement for the water.

1. Caney—Supply from Cana river, with no treatment whatever.

2. Cedarvale—Same as Caney.

3. Galena—Supply from Shoal creek. This water is furnished untreated to the city. It is a surface water supply receiving pollution and at times receiving mine drainage, causing it to be very unsatisfactory for municipal use. A modern filter plant should be constructed.

4. Osawatomie—Supply secured from Marais des Cygnes river and passed through a very inefficient set of filters. A report made on this plant by a representative of this office a short time ago recommended the installation of a modern filter plant, from which desirable water could be secured.

5. Paola—The supply for the city of Paola is secured from a stream known as Bull creek, pumped into an enormous reservoir, with a capacity of about fifteen days' consumption. While this water is, at most times of the year, safe from a bacteriological standpoint, it becomes very turbid at times, and several hog pens and feed lots drain into the creek a short distance above the dam. An investigation of this plant is being carried on at the present time.

6. Sedan—The supply for the city of Sedan is secured from the Cana river, with no treatment.

7. Yates Center—The supply for the city of Yates Center is taken from an impounded reservoir. Since about one-half of the water is furnished to the Missouri Pacific railway at Durant, no particular effort has been made to purify the water for domestic purposes.

Sewer extensions have been built during the past year at the following cities: Abilene, Atchison, Beloit, Chanute, Concordia, Dodge City, Emporia, Fort Scott, Great Bend, Hiawatha, Hutchinson, Independence, Kansas City, McPherson, Marysville, Nickerson, Osawatomie, Ottawa, Parsons, Pratt, Rosedale, Salina and Topeka. The new sewer systems which have been under construction for the past year or so at Burlingame, Halstead, Kinsley, Stafford and Yates Center have been completed. The sewer system under construction at Council Grove is about completed. The sewage disposal plant, consisting of duplicate units of Imhoff tanks and contact filters, to discharge into the Neosho river, and the main system of sewers has been finished. The laterals are under construction at the present time.

The city commissioners of Anthony desire to build a sewer system to empty into a stream which is dry the greater part of the year, a branch of Bluff creek. The original requirements of this department were that a disposal plant consisting of a septic tank and contact filters be built. The authorities would agree to build the septic tank alone, but did not wish to build the contact filter beds. We did not deem it wise to allow the system to be built under these conditions. It is hoped and believed that the system, with a complete disposal plant, will be built during the coming year.

Since the sanitary survey of Belleville, conducted by the University and the State Board of Health, an agitation for a sewer system in that city has been started. It is to be hoped that the efforts will be successful. Valley Falls has had plans prepared for the sewer system with a Imhoff tank, discharging into the Delaware river, which probably will be built the coming summer. Osborne also has had plans prepared, which have been tentatively approved by this department.

There are only ten cities, at present, with a population of over 2000 by the 1910 census, which do not have sewer systems. They are, in the order of their population: Frontenac, Garden City, Anthony, Weir City, Scammon, Belleville, Sterling, La Harpe, Lyons, and Ellsworth. There are 81 municipalities with a population of under 2000 with sewer systems.

During the past year several bitter complaints were received against the condition of the Marmaton river below Fort Scott, the Walnut river below Winfield, and our old friends the Walnut below El Dorado and Cow creek below Hutchinson. After an inspection of the Marmaton river and a report of the condition of the same, the city was advised to proceed to prepare plans for a sewage disposal plant, contemplating the collection of all the sewage in one place. This they neglected to do until after a lawsuit had been brought against the city, which, fortunately for the city, was thrown out of court on account of a technicality. At the present time the city has had plans drawn and will proceed with the construction of a trunk sewer and a septic tank in the near future. On account of the extreme expense of flood protection, this department did not require the construction of a complete disposal plant, although general plans for contact filters for future installation will be submitted. A plant for the discharge of the waste of the Fort

Scott Syrup Manufacturing Company, which added some to the pollution of the river below the city, has been built.

The city of Winfield, after some investigation of the matter and after having had a representative from this department make a visit there to investigate the nuisance caused by the discharge of the sewage into the Walnut river, decided to drop the matter until forced to build a disposal plant by the State Board of Health. The extreme low water of the Walnut river during the past summer brought about worse conditions than will be met with for some time in the future.

The city of Hutchinson is at last about ready to carry all their sewage to one point and pump it to a high enough level so that it may flow by gravity to the Arkansas river. This plan was chosen after several years deliberation, and, it is believed, will relieve the condition there.

In February a trip was made to Augusta and El Dorado with Governor Hodges to investigate the alleged danger to the Augusta and Winfield water supplies from the El Dorado sewage. The governor demanded evidence to show that the pollution from El Dorado actually reached Augusta, eighteen miles below. Accordingly, a survey of the condition of the river was made in March, which, unfortunately, failed to show any great pollution at that *particular* time. In the report on the survey, submitted to the governor this week, attention was called to the several serious epidemics caused by conditions in other places, and special stress was also placed on what is possible to occur there any year. It is hoped that further investigations can be made at a period of low water in the river, since at periods of low flow undoubtedly dangerous pollution occurs.

This department has collected practically all of the samples of water for the analysis required under the order of the secretary of the treasury of the United States of drinking water used on passenger trains within this state. We have visited some thirty-six cities, some of them more than once. The expense has been paid out of money paid into the water analysis laboratory at the University for the analyses made. On account of strenuous objection from some of the railroads, a plan is now under way whereby transportation may be furnished to the engineer for the collection of these samples, and the analyses will be made free in the laboratory. The greater part of the expense is occasioned in collecting the samples.

This work has enabled us to secure some improvements to waterworks plants in several cases where city water is supplied to the railroads, which we would have been unable to secure otherwise.

The seal which was placed on the valve on the suction line leading to the Kansas river of the Lawrence Water Company has solved a very perplexing problem in connection with various other water supplies in the state which have emergency lines to polluted streams and sewage disposal plants which have by-passes leading around the plant to the stream. It is the custom, when something goes wrong in a water purification plant or in a ground-water supply, to merely turn on the valve to the river and pump polluted water in the mains, without mentioning the fact to any one, and no one seems responsible or seems to care for how long river water is furnished. It seems to me that the engineer should be instructed by the State Board of Health in session, to place seals upon all emergency lines to sources of supply not ordinarily used, and require that the State Board of Health shall be notified by telegram as soon as such valve is opened. There have been several cases where sewage disposal plants have not given the best result, and, rather than to occasion any trouble by calling the attention of the State Board of Health to the fact, by-passes are opened to the nearest stream, throwing the sewage disposal plant clear out of commission, and leaving the plant in that condition until the fact is accidentally found out by a representative of this department, or by some citizen who is imposed upon. It seems to us that the engineer should be instructed to seal all by-pass valves for sewage disposal plants in the same manner that raw-water or emergency supply valves for waterworks plants are sealed, and that whenever the seal is broken the State Board of Health be notified immediately. This would save a great deal of trouble, both in the matter of waterworks and sewage disposal. This is done in the states of Ohio, New Jersey, Pennsylvania, and New York.

The Division of Water and Sewage, in conjunction with the State Water Survey Laboratory, is at the present time preparing a bulletin, which will be printed by the Engineering Experiment Station of the University, on the water supplies of the state. A great deal of valuable information has been gathered and will be printed covering sources of supplies, equipment of the various plants, the method of treatment, the

distribution system, the consumption of water and the rates charged, in addition to mineral analyses of all the waters. It is intended to publish this Bulletin some time during the coming summer.

On account of the awkwardness of the arrangement of maintaining the engineer's office at Lawrence and keeping the greater part of the records in the secretary's office in Topeka in the past six or seven years, a great deal of confusion has resulted and a great many valuable records have been misplaced. The work was started this past year to card index all applications, plans, specifications and reports in duplicate, copy to be kept in the office at Lawrence and one in the office at Topeka, so that in the future the location of any record may be found by glancing at this index. Several other changes in the management of the office have also been instituted.

The State Fire Insurance Department desires the services of an engineer in studying various waterworks plants, to oppose a raise in rate by the rating bureaus. A representative of the State Fire Insurance Bureau called upon Dean Walker, of the Engineering School, and suggested that an additional man be procured for this department, if possible, to work in conjunction with the engineer of the State Board of Health, who would collect such information. An additional man who could devote part time to the Insurance Bureau, as records of the sort they desire are constantly being secured by this office.

We have put into execution, to some extent, the plan mentioned in the semiannual report to the Board of supervising the operation of the surface-water plants by furnishing the authorities of the plant with suitable apparatus for making various simple tests necessary for securing proper knowledge of the character of the waters they are treating, and having the data gathered by these tests forwarded to this office once monthly, and we find that the idea is taking very well with the authorities in charge of the various plants. The following cities have adopted the scheme and are having alkalinity and turbidity records kept daily, made by their own apparatus, and are shipping bacteriological samples to the laboratory weekly, in their own containers: Burlingame, Burlington, Chanute, Cherryvale, Coffeyville, Fort Scott, Independence, Iola, Osage City, Ottawa, and the state prison.

We believe that the work of this department has, in the past, been of great value to the citizens of the state, both through the

improvement in general in waterworks construction, as well as the supply and operation of plants and in the gradual cleaning up of cities, resulting from the campaigns carried on by the State Board of Health, the construction of sewer systems and general educational features of the evils of cesspools and other nuisances. In the future, we expect to make our work of still more value by requiring more strictly the construction of modern and efficient plants, based on good sanitary practice and the gradual introduction of new ideas, bringing the control of the various plants, from a sanitary standpoint, more directly under the State Board of Health.

**Supplement to Report of Engineer (C. A. Haskins),
June, 1914.**

CLASSIFICATION OF WATERWORKS PLANTS IN KANSAS.

The most common classification of waterworks plants in any neighborhood is that which takes into consideration the source of supply, and hence the most natural method would be that which divides the whole number of plants into two classes, depending upon whether ground water or surface water is used. Those plants using ground water may again be divided into deep wells, shallow wells and springs, while those using surface water may be divided into rivers and streams, natural lakes and ponds, and impounded supplies. In this classification the distinction between each division must be more or less arbitrary. Deep wells and shallow must overlap in some cases. For instance, we are accustomed to calling deep wells those which are seventy-five to one hundred or more feet in depth and which pass through an impervious layer of material before reaching the water-bearing strata. Shallow wells, which supply the largest majority of the cities in the state, are those which secure water at a depth of less than seventy-five to one hundred feet, and which are subject to contamination by surface influences.

There is no difficulty in classifying such supplies as those deep wells of Pittsburg, Girard, Columbus, Mineral, and Scammon, Mulberry and Chetopa, and others in the southeastern part of the state which secure water at a depth of approximately 500 to 1000 feet, but those supplies are in no way similar to the supplies of Colby, Goodland, WaKeeney, Oakley,

Syracuse, and some others in the western part of the state, which secure water at a depth of only 100 to 200 feet, yet the deep wells of the latter named cities are not affected by surface influences. They are separated from surface water by an impervious strata, and should certainly not be classified as shallow wells.

Again, a classification of streams and impounded supplies must overlap. For instance, Garnett, Horton, Osage City, and Yates Center are supplied from large reservoirs formed by damming small dry-weather streams. Washington, Jewell City, Olathe, and Pleasanton are supplied by impounding reservoirs formed by damming streams somewhat larger than those at the first named cities, and Russell is supplied from a reservoir formed by damming one branch of the headwaters of the Smoky Hill river. Still, many of the plants using rivers or large streams as sources of supply find it necessary to construct dams across the streams in order to insure a supply during extremely dry weather. Examples may be found at Coffeyville and Independence on the Verdigris river, at Emporia and Iola on the Neosho river, at Fort Scott on the Marmaton, and at Ottawa on the Marais des Cygne river. This classification is the one which has been used in Table I, which contains, alphabetically arranged, the cities of the state supplied with water; the population by the 1910 U. S. census; the type of the source of supply, whether deep wells, shallow wells, springs, river water, creek water, or impounded water; and the ownership of the plant, whether public or private.

There are 198 cities in Kansas with water supplies for fire and domestic purposes. Two of these cities are supplied from other cities, Rosedale from Kansas City, Mo., and Gas City from Iola, leaving 196 waterworks plants in the state. The total population of the cities supplied with water is 664,022, or more than one-third of the total population of the state. Of the 196 plants, 182, or 93 per cent, are owned by the municipalities; 16, or a little more than 8 per cent, are owned by private companies. The population supplied by private companies is 157,863, or a little more than 24 per cent of the total population of the cities supplied with water, showing that some of the largest cities of the state are not yet maintaining municipal waterworks plants.

There are 40 surface supplies in the state, or 21.2 per cent

of the total number of plants. These supply a population of 288,503, or 43 per cent of the total population supplied by waterworks plants, showing that many of the largest cities are supplied with surface water.

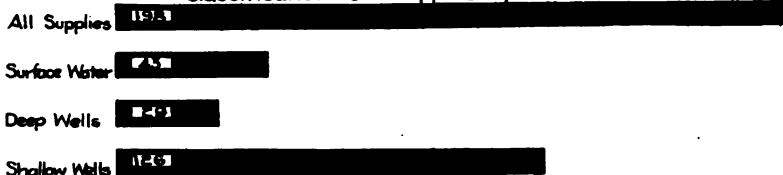
There are 156 plants utilizing ground-water supplies, or 78.8 per cent of the total number of plants, supplying, however, only 375,519 people, 57 per cent of the population tributary to waterworks plants.

Those cities supplied with water from the larger streams and rivers number 32, with a population of 272,990, or 73 per cent of the total population supplied with surface water, and 41 per cent of the total population tributary to waterworks plants in the state.

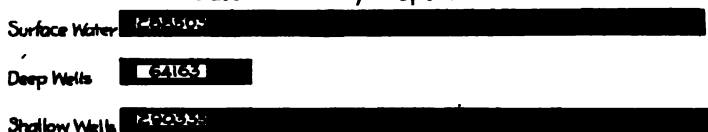
Those cities supplied with water from the small dry-weather streams number 10, with a population of 15,513, or 5.5 per cent

PLATE I.

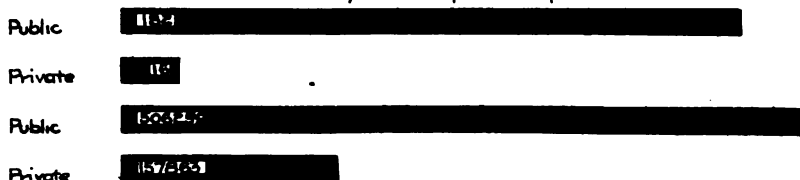
Classification of Supplies by Numbers



Classification by Population



Classification by Ownership and Population



of the population supplied with surface water, and 2.3 per cent of the total population of the state tributary to waterworks plants. The number supplied from smaller streams and impounded reservoirs is extremely small compared with many eastern states. This fact, however, is not surprising, considering the flat topography of the state, with its lack of suitable

reservoir sites. There are no lakes or natural ponds used as sources of water supply in the state.

There are 29 cities supplied by means of deep wells, with a population of 64,163, or 17 per cent of the population supplied with ground water, and 9.6 per cent of the total population of the state tributary to waterworks plants.

The number of plants utilizing shallow wells is 111, 56 per cent of the total number, supplying a population of 290,335, or 77.5 per cent of the total supplied with ground water, and 44 per cent of the total population of the state tributary to waterworks plants.

The number using springs as a source of supply is 10, or a little more than 5 per cent of the total number of plants, supplying a population of 21,021, or 5.6 per cent of the total population supplied with ground water, and 3.2 per cent of the total population of the state tributary to waterworks plants.

The classification of the supplies by number, population served and by ownership is shown graphically in Plate I. The full heavy lines are drawn to scale in each case, showing, therefore, proportionately the various classifications. Table I is a list of cities in alphabetical order having waterworks plants, their population, ownership and source of supply.

TABLE NO. 1.—LIST OF CITIES HAVING WATERWORKS.

City.	Pop. 1910.	Type.	Ownership.
Abilene	4,118	Springs	Public.
Almena	702	Shallow wells	Public.
Alton	414	Shallow wells	Public.
Altoona	1,462	Shallow wells	Public.
Anthony	2,869	Shallow wells	Public.
Arkansas City	7,508	Shallow wells	Public.
Ashland	910	Shallow wells	Public.
Atchison	16,429	Missouri river	Private.
Atwood	680	Shallow wells	Public.
Augusta	1,235	Walnut river	Public.
Baldwin	1,386	Springs	Public.
Baxter Springs	1,598	Deep wells	Private.
Belle Plaine	849	Shallow wells	Public.
Belleville	2,221	Deep wells	Public.
Beloit	3,082	Shallow wells	Public.
Bennington	386	Shallow wells	Public.
Blue Rapids	1,756	Shallow wells	Public.
Bonner Springs	1,462	Shallow wells	Public.
Bucklin	696	Deep well	Public.
Bunker Hill	262	Springs	Public.
Burden	424	Springs	Public.
Burlingame	1,422	Dragoon creek	Public.
Burlington	2,180	Neosho river	Public.
Burr Oak	1,132	Shallow well	Public.
Caldwell	2,205	Shallow wells	Public.
Caney	5,061	Cana river	Public.
Cawker	870	Shallow wells	Public.
Cedarvale	948	Cana river	Public.
Chanute	9,272	Neosho river	Public.
Chapman	731	Shallow wells	Public.
Cherokee	1,452	Deep well	Public.
Cherryvale	5,572	Verdigris river	Public.
Chetopa	1,543	Deep well	Public.

TABLE NO. 1.—LIST OF CITIES HAVING WATERWORKS—continued.

City.	Pop. 1910.	Type.	Ownership.
Cimarron	587	Shallow wells	Public.
Clay Center	3,488	Shallow wells	Public.
Clearwater	569	Shallow wells	Public.
Clifton	614	Shallow wells	Public.
Clyde	1,057	Shallow wells	Public.
Cofteyville	12,687	Verdigria river	Public.
Colby	1,130	Deep well	Public.
Coldwater	684	Shallow well	Public.
Columbus	3,064	Deep well	Public.
Concordia	4,415	Shallow wells	Public.
Conway Springs	1,292	Springs	Private.
Cottonwood Falls	899	Drawn water	Public.
Council Grove	2,545	Neosho river	Private.
Delphos	767	Shallow wells	Public.
Dodge City	8,214	Shallow wells	Public.
Douglas	657	Walnut river	Public.
Downs	1,427	Shallow wells	Public.
El Dorado	3,129	Wells and infiltration gal.	Public.
Ellinwood	976	Shallow wells	Public.
Ellis	1,404	Shallow wells	Public.
Ellsworth	2,041	Shallow wells	Public.
Emporia	9,059	Neosho river	Public.
Englewood	518	Shallow wells	Public.
Enterprise	706	Shallow well	Public.
Erie	1,300	Shallow well	Public.
Esbon	847	Shallow well	Public.
Eureka	2,333	Shallow well	Public.
Florence	1,168	Shallow well	Public.
Fort Scott	10,463	Marmaton river	Public.
Fowler	473	Deep well	Public.
Frankfort	1,426	Shallow well	Public.
Fredonia	3,040	Fall river	Public.
Frontenac	3,896	Deep well	Public.
Galena	6,096	Shoal creek	Public.
Garden City	8,171	Shallow wells	Public.
Garnett	2,384	Impounded	Public.
Gas City	1,281	Supplied from Iola	Public.
Girard	2,446	Deep wells	Public.
Glasco	720	Shallow wells	Public.
Glen Elder	565	Shallow wells	Public.
Goodland	1,998	Deep wells	Public.
Great Bend	5,500	Shallow wells	Private.
Green	289	Shallow wells	Public.
Greenleaf	781	Shallow wells	Public.
Halstead	1,004	Shallow wells	Public.
Hanover	1,039	Shallow wells	Public.
Harper	1,638	Shallow wells	Public.
Hays City	1,961	Shallow wells	Public.
Havensville	412	Shallow wells	Public.
Herington	3,273	Springs	Public.
Hilawatha	2,974	Wells and springs	Public.
Highland	768	Shallow wells	Public.
Hill City	983	Shallow wells	Public.
Holisington	1,975	Shallow wells	Public.
Holton	2,842	Springs	Public.
Holyrood	361	Shallow wells	Public.
Humboldt	3,600	Shallow well	Public.
Hutchinson	16,364	Shallow wells	Private.
Independence	10,480	Verdigria river	Public.
Iola	9,032	Neosho river	Public.
Jamestown	462	Shallow wells	Public.
Jetmore	317	Shallow wells	Public.
Jewell City	889	Impounded	Public.
Junction City	5,598	Shallow wells	Public.
Kanapolis	577	Shallow wells	Public.
Kansas City	85,879	Missouri river	Public.
Kensington	467	Shallow wells	Public.
Kingman	2,570	Springs	Public.
Kinsley	1,547	Shallow wells	Public.
Kiowa	1,520	Shallow wells	Public.
La Cygne	957	Shallow wells	Public.
La Harpe	2,080	Elm creek	Public.
Larned	2,911	Shallow wells	Public.
Lawrence	12,874	Shallow wells	Private.
Leavenworth	19,363	Missouri river	Private.
Lebanon	731	Springs	Public.
Liberal	1,716	Deep wells	Public.

TABLE NO. 1.—LIST OF CITIES HAVING WATERWORKS—continued.

City.	Pop. 1910.	Type.	Ownership.
Lincoln	1,508	Shallow wells	Public.
Lindsborg	1,939	Shallow wells	Public.
Logan	714	Deep well	Public.
Lucas	578	Shallow well	Public.
Luray	841	Shallow wells	Public.
Lyndon	763	Salt creek	Public.
Lyons	2,071	Shallow wells	Public.
McPherson	8,546	Deep wells	Public.
Madison	721	Shallow wells	Public.
Manhattan	5,722	Shallow wells	Public.
Mankato	1,155	Shallow wells	Public.
Marion	1,841	Shallow wells	Public.
Marquette	715	Shallow wells	Public.
Marysville	2,260	Blue river	Private.
Meade	664	Deep wells	Public.
Medicine Lodge	1,229	Elm creek	Public.
Miltonvale	829	Shallow wells	Public.
Mineral	1,770	Deep wells	Private.
Minneapolis	1,895	Shallow wells	Public.
Moline	808	Shallow wells	Public.
Mound City	698	Sugar creek	Public.
Mound Ridge	626	Shallow wells	Public.
Mulberry	997	Deep wells	Public.
Mulvane	1,084	Shallow wells	Public.
Neodesha	2,872	Fall river	Public.
Newton	7,862	Deep wells	Public.
Nickerson	1,195	Shallow wells	Public.
Norton	1,787	Shallow wells	Public.
Oakley	681	Deep wells	Public.
Oberlin	1,157	Deep wells	Public.
Olathe	8,272	Impounded	Public.
Onaga	759	Shallow wells	Public.
Osage City	2,432	Impounded	Public.
Osawatomie	4,046	Marais des Cygnes river	Public.
Osborne	1,566	Shallow wells	Public.
Owego	2,317	Neosho river	Public.
Ottawa	7,650	Marais des Cygnes river	Public.
Oxford	624	Shallow wells	Public.
Paola	8,207	Bull creek	Public.
Parsons	12,468	Little Labette creek	Private.
Peabody	1,416	Shallow wells	Public.
Peru	575	Shallow wells	Private.
Phillipsburg	1,802	Deep wells	Public.
Pittsburg	14,755	Deep wells	Public.
Plainville	1,090	Deep wells	Public.
Pleasanton	1,373	Impounded	Public.
Pratt	8,802	Shallow wells	Public.
Randall	825	Shallow wells	Public.
Rosedale	5,960	Supplied from K. O., Mo.	Public.
Russell	1,692	Impounding reservoir	Public.
Sabetha	1,768	Shallow wells	Public.
St. Francis	492	Shallow wells	Public.
St. John	1,785	Shallow wells	Public.
St. Marys	1,897	Shallow wells	Public.
Salina	9,688	Shallow wells	Public.
Scammon	2,238	Deep wells	Public.
Scandia	579	Shallow wells	Public.
Scott City	918	Deep wells	Public.
Sedan	1,211	Cana river	Public.
Sedgwick	616	Shallow wells	Public.
Seneca	806	Shallow wells	Public.
Sharon Springs	440	Deep wells	Public.
Smith Center	1,292	Wells and infiltration gallery	Public.
Stafford	1,927	Shallow wells	Public.
Sterling	2,183	Shallow wells	Public.
Stockton	1,817	Shallow wells	Public.
Sylvan Grove	464	Shallow wells	Public.
Strong City	762	Shallow wells	Public.
Syracuse	1,126	Deep wells	Public.
Topeka	48,684	Shallow wells	Public.
Turon	572	Shallow wells	Public.
Udall	880	Shallow wells	Public.
Valley Falls	1,129	Springs	Public.
Wa Keeney	888	Deep wells	Public.
Wakefield	514	Shallow wells	Public.
Waldo	800	Shallow wells	Public.
Wamego	1,714	Shallow wells	Public.

TABLE NO. 1.—LIST OF CITIES HAVING WATERWORKS—concluded.

City.	Pop. 1910.	Type.	Ownership.
Washington	1,547	Impounded	Public.
Waterville	704	Shallow wells	Public.
Waverly	751	Shallow wells	Public.
Weir City	2,289	Deep wells	Public.
Wellington	7,034	Surface water	Public.
Westmoreland	484	Shallow wells	Public.
Wichita	52,450	Shallow wells	Private.
Wilson	981	Shallow wells	Public.
Winfield	6,700	Walnut river	Public.
Yates Center	2,024	Impounded	Private.

Division of Food and Drugs.

BIENNIAL REPORT COVERING THE PERIOD OF JULY 1, 1912 TO JULY 1, 1914.

To the Secretary of the State Board of Health:

The following report covering the biennial period ending July 1, 1914, is herewith submitted for publication in the seventh biennial report of the Kansas State Board of Health. A preliminary and summarized report was given by the writer at the June, 1914, meeting of the State Board of Health, but that report only covered in a general way the work of this division from July 1, 1913, to May 1, 1914, hence this more detailed report:

	Fiscal year ending July 1, 1913.	Fiscal year ending July 1, 1914.
Total No. of food and drug inspections	8,039	7,655
Total No. of hotel and restaurant inspections	2,918	.....
Towns inspected	1,568	1,477
Scales inspected	6,951	7,281
Scales condemned	68	40
Weights inspected	19,968	19,475
Weights condemned	648	209
Measures inspected	3,480	2,343
Measures condemned	46	2
Samples collected	1,290	1,121
Food analyses reported	551	763
Food samples passed	853	496
Food samples misbranded	.....	140
Food samples adulterated	.....	127
Drug analyses reported	211	393
Drug samples standard	149	84
Drug samples above standard	.....	61
Drug samples below standard	62	146
Regular prosecutions terminated	67	51
Delinquent prosecutions terminated during months of May and June, 1914, covering a period from May, 1911 to May, 1914	.....	31
Delinquent prosecutions cases, could get no report from county attorneys	.....	34
DETAILED REPORT OF INSPECTIONS.		
Places inspected:		
Grocery stores	3,680	2,941
Meat markets	1,717	982
Drug stores	999	824
Doctor's dispensary stock	.....	33
Bakeries	440	356
Confectioneries (including ice cream parlors)	363	267
Elevators	.....	234

Places inspected:	Fiscal year ending July 1, 1913.	Fiscal year ending July 1, 1914.
Mills	55	187
Slaughter houses	121	121
Bottlers	86	92
Fair, circus stands and concessions		51
Packing houses		9
Commission houses	128	49
Wholesale groceries		24
Tea and coffee houses		4
Extract and spice houses		8
Seed houses		8
Wholesale cheese houses		2
Poultry		1
Wholesale feed		12
Manufacturers		80
Drug manufacturers		2
Serum company		4
Vinegar factory		1
Cider works		1
Pretzel manufacturer		1
Candy factories		20
Miscellaneous factory		1
Hotels	1,269	
Restaurants	1,649	
Barber shops	177	
Cream stations	145	
Miscellaneous (including ice wagon investigations, ice plants, lunch counters, restaurants, creamery, produce, hay and feed)		148
Miscellaneous food and drug inspections other than those mentioned	178	1,885

DETAILS OF FOOD AND DRUG ANALYSES.

The following is a detailed report of the food and drug analyses reported during the period from July 1, 1913, to July 1, 1914. From a perusal of these tabulated reports, much improvement seems to be evident, especially in the number of food samples passed during the fiscal year ending July 1, 1914. The real trouble in most cases of illegal food stuff seems to be misbranding, especially in so-called temperance beverages, miscellaneous artificially colored extracts, coe oysters, mince meats, cider vinegar, etc., wherein the label on the consumer's container does not bear the true statements of the real contents. Such food products as catsup which sometimes contain decomposed tomato pulp must be classed as adulterated under our law.

The greatest trouble with our drug products seems to be that most of them were classed below standard because of deterioration; *i. e.*, they have been kept too long in stock and have deteriorated. Under this class would come deteriorated fluid extracts, essence of pepsin, spirits of nitrous ether, nitro-glycerin tablets, etc. Other drugs that have been classed as substandard would come under the sophisticated class such as adding water to spirits of camphor, making a weak solution, of iodine and alcohol and calling same tincture of iodine. For such substandard drug products there is no excuse. Then

there is a third class of drug products which have been called substandard in that through carelessness in preparation or through weighing and measuring with substandard balances and graduates, the final product will not come up to the U. S. P. or N. F. official strength. Of course a fourth class of proprietary or so-called patent articles can only be reached by placing a false advertising law on our statute books to supplement the food and drug act. A fifth class of above standard drug products is as illegal as below standard drug products. An overdose is just as bad as an underdose.

Food Analyses Reported.

July 1, 1913, to July 1, 1914.

Kind of sample.	Number unbranded	Number adulterated	Number passed	Total number samples
Baking powder	0	11	19	30
Beverages	12	6	9	27
Beverage preparations	0	0	4	4
Beverage "foamers"	0	4	3	7
Butter	8	1	2	6
Butterine and oleo	0	1	3	4
Candy	0	1	14	15
Canned fruit	4	5	5	14
Canned corn	7	2	15	24
Canned vegetables	0	0	5	5
Canned tomatoes	0	0	2	2
Canning compound	0	1	0	1
Catsup (tomato)	0	14	17	31
Chewing gum (pepsin)	2	0	8	10
Chocolate (powdered)	1	1	0	2
Cocoa	1	0	2	3
Coffee, coffee preparations and substitutes	4	0	1	5
Clam tone	0	1	0	1
Cove oysters	12	0	25	37
Dried fruit	1	0	1	2
Extracts.				
Vanilla	0	1	3	4
Imitation vanilla	1	2	3	6
Lemon	6	2	7	15
Nonalcoholic lemon extract	0	0	1	1
Terpeneless lemon	0	1	0	1
Miscellaneous extracts	8	3	4	15
Fruit and sugar butters	0	2	4	6
Peanut butter	1	0	21	22
Vinegar, cider	10	0	5	15
Vinegar, imitation	0	0	2	2
Vinegar, distilled	0	1	4	5
Vinegar, sugar	0	0	2	2
Bologna	0	0	1	1
Bread	0	0	1	1
Maraschino and other cherries	4	0	3	7
Canned cherries	0	2	0	2
Corn meal	0	1	1	2
Cucumbers	0	0	4	4
Fish (canned)	0	0	4	4
Horseradish	0	0	1	1
Jelly powder	0	0	1	1
Date-nut butter	1	0	7	8
Food colors	0	0	34	35
Flour (wheat)	1	0	2	3
Flour (graham)	0	0	0	0
Gelatin (edible)	2	0	0	2

Kind of sample.	Number misbranded....	Number adulterated....	Number passed.....	Total number samples.....
Honey	0	0	5	5
Horse radish cream	1	0	0	1
Ice cream	6	86	76	118
Ice cream cones	0	0	8	8
Ice cream thickeners	0	1	4	5
Jellies	1	1	1	3
Maple syrup	0	0	1	1
Maple sugar	0	0	1	1
Mince meat	85	0	8	38
Malt extract	0	0	1	1
Milk	1	7	48	51
Milk (skimmed powder)	0	0	1	1
Nuts	0	2	2	4
Olive oil	3	0	14	17
Pickles and relish	4	8	7	19
Shellac	0	0	1	1
Sorghum and corn syrup	0	0	1	1
Sorghum	0	0	1	1
Sugar (powdered)	1	0	1	2
Sausage seasoning	0	0	2	2
Syrup (grape smash)	2	0	0	2
<i>Spices.</i>				
Alspice	0	0	2	2
Cayenne pepper	0	0	1	1
Cinnamon	0	0	3	3
Cloves	0	0	3	3
Ginger	0	0	3	3
Mace	0	0	1	1
Mustard	2	0	2	4
Paprika	0	0	1	1
Pepper	0	0	3	3
Pie fillers	0	0	1	1
Salmon (canned)	2	0	4	6
Sauce (Worcester)	0	0	1	1
Sausage	0	0	4	4
Tomatoes (canned)	0	6	34	40
Lard	0	0	4	4
Milk (evaporated)	0	3	6	9
Mustard (prepared)	1	0	2	3
Oysters (fresh)	0	0	8	8
Total food samples	140	127	496	763

Drug Analyses Reported.
July 1, 1913, to July 1, 1914.

Kind of sample.	Number above standard.....	Number below standard.....	Number standard.....	Total number samples.....
Asafetida (powdered)	3	4	1	8
Asafetida (glycerated)	3	1	0	4
Asafetida (pills of)	0	1	0	1
Asafetida (tincture of)	0	4	1	5
Asperin (as declared).....	1	11	4	16
Bay rum (as declared).....	0	2	1	3
Bi-carbonate of soda.....	7	0	1	8
Bismuth subnitrate	0	0	3	3
Bismuth tablets (as declared).....	0	1	2	3
Brown's Mixture	0	1	0	1
Camphor (spirits of).....	3	18	3	24
Cream of tartar.....	0	0	4	4
Elixir of I. Q. & S. Phos. (U. S. P.).....	0	2	0	2
Elixir of I. Q. & S. Phos. (N. F.).....	0	0	1	1
Elixir of pepsin.....	0	1	0	1
Elixir nitro-glycerine comp. (as declared).....	0	0	2	2
Essence of pepsin.....	0	6	0	6
Essence of peppermint.....	1	9	2	12
<i>Essential oils.</i>				
Oil of anise	0	2	1	3
Oil of cassia	0	1	2	3
Oil of cubeb	0	1	1	2
Oil of eucalyptus	0	0	2	2
Oil of lavender	0	1	0	1
Oil of sassafras	0	0	1	1
Oil of thyme	1	0	0	1
Oil of turpentine	2	0	1	3
Flavor of peppermint (as declared).....	0	2	0	2
Fowler's Solution	0	0	1	1
Ginger (tincture of)	4	13	1	18
Ginger (Jamaica)	0	0	1	1
Hydrogen peroxide	3	0	3	6
Iodine (tincture of).....	2	9	0	11
Iodide (potassium)	0	0	2	2
Morphine tablets (as declared).....	1	0	0	1
Nitro-glycerin tablets (as declared).....	0	4	0	4
Peroxide cream (as declared).....	0	0	6	6
Peroxide vegetable soap (as declared).....	0	0	1	1
Spirits of nitrous ether.....	1	21	0	22
Talcum powder (as declared).....	0	0	7	7
Tincture of strophanthus	0	0	1	1
Tincture of belladonna	0	0	1	1
Miscellaneous drugs, patents, and remedies..	4	12	12	110
Witch hazel	0	3	1	4
Turpentine	0	1	2	3
Linseed oil (raw)	11	6	7	24
Linseed oil (boiled)	14	10	5	29
Total drug samples	61	146	84	873

LINSEED-OIL LAW.

During the past fiscal year, there has been considerable work done on the enforcement of this phase of the work charged to this division. Seventy-three samples of linseed oil were taken up by our inspectors and reported upon by our analysts. Thirty-four were raw linseed oil, of which seven were passed, six were below standard and eleven were above standard. Thirty-nine were boiled linseed oil of which five

were passed, ten were below standard, and fourteen were above standard. Prosecutions which terminated for violation of the linseed-oil law numbered five, each violator being fined \$10 and costs, with one exception, which case court dismissed without prejudice to a future action.

SCALES, WEIGHTS AND MEASURES LAW.

The following is a detailed report, divided into the two fiscal years ending July 1, 1913 and 1914 respectively, of the scales, weights and measures condemned by our traveling inspectors:

Scales, Weights and Measures Condemned.

July 1, 1912, to July 1, 1913.

Name of owner, city, and article condemned.

Stoy E. Ware, Sylvan Grove. 1 2-oz. graduate.
 Perry Loyd, Culver. 5 weights taken up. Rx.
 G. M. Cook, Lucas. 3 weights. Rx.
 D. C. Cashman, Atwood. 4 weights taken up. Rx.
 R. J. McClay, Plainville. 1 weight taken up. Rx.
 Mrs. C. R. Stevenson, Herndon. 2 weights taken up. Rx.
 J. P. Wormeringer, Sharon Springs. 3 weights taken up. Rx.
 C. A. Harkness, Hays City. 7 weights taken up. Rx.
 W. W. Gibson, Wa Keeney. 1 Rx. balance.
 Dawsons' Drug Store, Russell. 5 weights taken up. Rx.
 M. R. Smith, Russell. 3 weights taken up. Rx.
 F. M. Sawyer, Deerfield. 1 pair old Stimpson scales, No. 250,867.
 P. L. Howe, Winfield. Counter Standard computing scale.
 W. P. Shower, Lovewell. 1 pair old Fairbanks counter platform scales.
 C. D. Peterson, Scandia. 1 pair hanging meat scales.
 Brandt Chaput & Mercer, Aurora. 1 pair meat scales.
 J. C. Moss, Mankato. 1 pair hanging meat computing scales.
 W. A. Thew, Conway Springs. 1 pair Rx. scales.
 J. A. Smith, Eureka. 1 Toledo computing scale.
 City Drug Store, Tribune. 1 Rx. weight.
 Rexall Drug Store, Scott City. 1 Rx. weight; 1 graduate.
 City Drug Store, Scott City. 4 Rx. weights.
 Ransom Drug Store, Ransom. 1 Rx. balance.
 The Sample Drug Co., La Crosse. 3 Rx. weights.
 Mr. J. L. Kemp, Lebanon. 1 pair hanging computing meat scales.
 Dr. J. Shepard, Leoti. 1 Rx. weight.
 Pioneer Drug Store, Leoti. 3 Rx. weights.
 E. G. Wickwire, Larned. 5 Rx. weights.
 Barber's Drug Store, Larned. 1 Rx. weight.
 Makinson & Brookins, Holton. Rx. scales condemned.
 C. H. Hayes, Goffs. 1 pair Rx. scales.
 G. W. Sourk, Goffs. 1 pair Rx. scales.
 Cole & Anderson, Downs. 1 pair hanging meat scales, Stimpson 30,678.
 J. W. Sutton, Glasco. 1 pair hanging meat scales, Dayton 102,133.
 A. W. Morris, Glasco. 1 pair Korschner scales.
 Rexall Drug Store, Downs. 2 Rx. weights.
 City Pharmacy, Downs. 1 Rx. weight.
 J. H. Cox, Conway Springs. Counter scale; Standard computing scale.
 J. W. Pilcher. 1 pair Stafford counter platform scales.
 New York Store Mercantile Co., Beloit. 4 weights.
 A. P. Shepardson, Bellaire. 1 pair hanging meat scales, Universal computing.
 Ed. Quenelle, Aurora. 1 pair Rx. scales; 15 weights.
 J. E. McGrath, Atchison. Rx. scales condemned; 5 Rx. weights.
 Paris & Garvin, Yates Center. 1 pair old style Stimpson computing.
 T. J. Fee, Woodruff. 1 pair Chatillon hanging meat scales.
 Barker & Allman, Turon. Stimpson computing scale, 500,862.
 Uhl Drug Co., St. John. 4 Rx. weights.
 The A. & A. Drug Store, St. John. 4 Rx. weights.
 The A. & A. Drug Store, Stafford. 3 Rx. weights.
 J. Brown, Preston. 2 measures, $\frac{1}{2}$ pk and 1 pk.
 The Pratt Drug Co., Pratt. 16 Rx. weights.
 Frank A. Milne, Pratt. 4 Rx. weights.
 The Palace Drug Store, Preston. 2 Rx. weights.
 The Corner Drug Store, Macksville. 6 Rx. weights.
 M. & M. Drug Store, Meade. 2 Rx. weights.
 Lewis Drug Co., Lewis. 1 Rx. balance.

Name of owner, city, and article condemned.

J. W. Giesburg, Kansas City. 1 pair Rx. scales.
 Chas. Taylor & Co., Liberal. 8 Rx. weights.
 Medearis Drug Co., Kansas City. Rx. scales.
 Geo. S. Smith & Bro., Liberal. 2 Rx. weights.
 T. S. Locke, Liberal. 6 Rx. weights.
 Marsh's Drug Store, Kansas City. 1 pair Rx. scales.
 L. P. Freeman, Galesburg. 1 pair Rx. scales.
 H. F. Davis, Colby. 1 pair old Dayton scales, 50,886; 1 pair Rx. balances.
 W. V. Etling, Burdette. 2 Rx. weights.
 Lem Fulwider, Brewster. 1 pair hanging meat scales, Dayton, No. 82,584.
 Wood & Lauman, Syracuse. 1 pair Wilmore computing scales.
 J. A. Berry, Arlington. 3 weights.
 R. J. Yocum, Roseville. 1 weight from counter platform scale.
 C. W. Coffey, New Salem. Stimpson counter scale, 252,412.
 Pollock & Shively, Minneola. Stimpson computing, 503,580.
 John W. Alford, Matfield Green. Rx. scales condemned.
 Wayne C. Alford, Mullinville. 3 Rx. weights.
 Craft's Pharmacy, Mullinville. 6 Rx. weights.
 J. A. Follick, Minneola. 2 Rx. weights.
 H. C. Bradbury, Plainville. 1 Dayton computing, 154,059.
 F. D. Eggleston, Kingman. 1 Rx. weight.
 J. W. Cookson Drug Co., Kingman. 5 Rx. weights.
 N. H. Kilmer's Pharmacy, Kingman. 2 Rx. weights.
 T. S. Lathen, Lane. 1 pair National computing scales.
 Harper Drug Co., Harper. 7 Rx. weights.
 Earl Collins, Harper. 4 Rx. weights.
 Dr. D. S. Parks, Greensburg. 9 Rx. weights.
 Doty Drug Co., Cunningham. 1 Rx. weight.
 Cheney Drug Co., Cheney. 8 Rx. weights.
 Delton Sparr, Bluff City. 1 Rx. balance.
 The Palace Drug Co., Bucklin. 5 Rx. weights.
 Dr. W. W. Pritchard, Bucklin. 5 Rx. weights.
 Irwin & Potter, Anthony. 5 Rx. weights.
 C. B. Olson, Topeka. 1 pair Angledile.
 James O'Reilley, Strong City. 1 pair Wilmore computing scales.
 H. L. Rodenberg, Leavenworth. 1 pair old Dayton scales, 43,761; 1 10-lb. weight.
 Davenport & Clark, Little River. 1 Rx. balance.
 Mr. Fred B. Bishop, Eureka. 1 pair Rx. balance.
 Dougherty's Drug Store, Syracuse. 4 Rx. weights.
 W. Diefendorf, Fairmount. 1 weight.
 City Drug Store, Garden City. 6 Rx. weights; 4 Rx. weights.
 City Drug Store, Dodge City. 4 Rx. weights.
 Geo. D. Cochran, Dodge City. 2 Rx. weights.
 W. L. Welsh, Hazelton. 8 Rx. weights.
 City Drug Store, Hardtner. 1 Rx. weight.
 The Union Pacific Tea Co., Topeka. 12 weights.
 The Gem Drug Store, Ellinwood. 3 Rx. weights.
 S. C. Arnold, Hudson. 5 Rx. weights; 1 pair Rx. balances.
 J. W. Downey, Great Bend. 1 pair Chatillon scales.
 G. Sevain, Peabody. 8 weights.
 Seitz's Eagle Drug Store, Salina. 4 Rx. weights.
 A. A. Wiesner, Hays. 1 pair Stimpson scales, 501,368.
 M. P. Shack, Sterling. 1 American computing.
 J. H. Larkin, Leavenworth. 1 pair even balance; 3 weights.
 August Wulfekuhler, Leavenworth. 8 weights.
 Rice Brothers, Ashland. 1 pair Rx. balances.
 E. L. Feagan, Norwich. 2 Rx. weights.
 Owl Grocery, North Topeka. 2 weights.
 Zimmerman & Williamson, Troy. 2 weights; 1 pair old even balance scales.
 M. E. Roudy, Doniphan. 1 pair scales, 5 weights—a very old Buffalo.
 Griffin & Son, Nortonville. 4 Rx. weights.
 D. J. Lane, St. Marys. 8 Rx. weights.
 Winterscheidt & Luebke, Horton. 1 Rx. weight.
 A. T. Stewart, Denton. 2 Rx. weights.
 Makinson & Brookins, Holton. 2 Rx. weights.
 H. F. Kesphol, Atchison. 4 weights.
 Emil Ebner, Atchison. 2 weights.
 J. H. Woodford, Atchison. 2 weights.
 F. P. Barrett & Son, Atchison. 2 weights.
 W. E. Obley, Burrton. 1 pair Stimpson computing.
 Paul J. Schmidt, Atchison. 1 weight.
 E. W. Berlin, Atchison. 5 weights.
 Geo. McLaren, Troy. 6 Rx. weights.
 E. A. Sinclair, Troy. 2 Rx. weights.
 Robert McMillan, Meriden. 1 Rx. weight.
 J. M. Boys, Wamego. 1 Rx. weight.
 August Hagen, Atchison. 7 weights.
 C. V. Jacobs, Atchison. 1 pair even balance scales; 1 weight.
 Reed's Pharmacy, Soldier. 2 Rx. weights.
 Geo. L. Brown, Highland. 3 weights.
 O. E. Lear, White Cloud. 4 weights.
 Warner Drug Co., Carbondale. 4 Rx. weights.

Name of owner, city, and article condemned.

W. J. Rosser & Co., Carbondale. 2 Rx. weights.
 H. S. Willard, Manhattan. 3 Rx. weights.
 E. C. Hulburd, Wamego. 1 Rx. weight.
 Raymond's Drug Store, Lawrence. 8 Rx. weights.
 W. V. Hill, Lawrence. 1 Rx. balance.
 Dick Brothers, Lawrence. 2 Rx. weights.
 F. B. McColloch, Lawrence. 1 Rx. weight.
 A. C. Rosser, Osage City. 4 Rx. weights.
 W. W. Hull, Alta Vista. 1 pair Rx. balances.
 Wempe & Huerter, Seneca. 7 weights.
 Moore's Pharmacy, Marysville. 4 Rx. weights.
 D. Von Riesen, Marysville. 2 Rx. weights.
 H. C. Reeder, Blue Rapids. 7 Rx. weights.
 Greevan's Drug Store, Axtell. 4 Rx. weights.
 J. E. Henry, Summerfield. 1 pair Rx. balances.
 Dr. Jewett, Eskridge. 2 Rx. weights.
 E. R. Brown, Eskridge. 2 Rx. weights.
 A. A. Meyer, Alma. 1 Rx. weight.
 F. J. Wagner, McFarland. 1 Rx. balance, Tromer.
 Kandt's Drug Store, Herington. 4 Rx. weights; 8 Rx. weights.
 U. S. Davis, Morrill. 4 Rx. weights.
 J. C. Fuger, Hamlin. 2 Rx. weights.
 M. F. Malinowsky, Hiawatha. 1 pair Turnbull's platform.
 Fred G. Beaulieu, Sabetha. 1 Rx. weight.
 J. L. McCormick & Co., Phillipsburg. 1 pair box Rx. balances.
 O. E. Lynn, Mankato. 1 Rx. weight.
 T. H. Shedden, Formosa. 1 Rx. weight.
 M. Barlow, Marysville. 1 pair Howe scales.
 Clyde Drug Co., Clyde. 15 Rx. weights.
 H. E. Isaacson, Clyde. 1 pair Rx. balances, No. 269.
 J. G. Woolsey, Munden. 1 pair Rx. balances, No. 23,287.
 Arbutnot Drug Co., Belleville. 1 Rx. weight.
 Hutchcock & Carnahan, Baldwin. 5 Rx. weights.
 The Row Drug Co., Baldwin. 1 Rx. weight.
 S. M. Scheffer, Bonner Springs. 1 Rx. weight.
 O. P. Barber & Son, Lawrence. 2 Rx. weights.
 E. E. N. Coan, Barnes. 14 Rx. weights.
 Smith Drug Co., Washington. 2 Rx. weights.
 Rommel Drug Co., Waterville. 3 Rx. weights.
 E. Bechard, Clyde. 4 Rx. weights.
 Parker Drug Co., Kansas City. 11 Rx. weights.
 Tom Lilley Drug Co., Kansas City. 5 Rx. weights.
 Ruby Pharmacy, Kansas City. 9 Rx. weights.
 Corner Pharmacy, Neodesha. 1 pair Rx. scales.
 A. S. Cook, Kansas City. 8 Rx. weights.
 M. J. Bulger, Carliyle. 1 pair old hanging spring meat scales.
 J. F. Best, Carliyle. 1 pair hanging meat scale.
 Seefkin & Peiper, Humboldt. 1 pair Stimpson hanging meat scales.
 Wright Ireland Co., Bronson. 4 weights.
 Kibbey's Pharmacy, Junction City. 1 Rx. weight.
 J. C. Thomas, Iola. 1 pair old spring platform meat scales.
 Wm. McGeorge, Kansas City. 1 pair Rx. balances.
 A. C. Riddell, Kansas City. 8 Rx. weights.
 H. W. Steyer, Iola. 3 weights.
 Union Pacific Tea Co., Iola. 2 weights.
 C. L. Cowan, Iola. 12 weights.
 A. J. Lieurance, Neosho Falls. 1 pair Rx. scales.
 Simpson Block Drug Co., Kansas City. 1 Rx. balance.
 Leverich Drug Co., Kansas City. 7 weights.
 Hampton's Pharmacy, Kansas City. 1 Rx. weight.
 R. S. Pingar, Kansas City. 1 pair Rx. scales.
 Benedict & McClure, Benedict. 1 pair hanging meat scales, 16,360.
 W. J. Allen, Weir City. 9 Rx. weights.
 Jas. J. Purcell, Salina. 5 weights.
 National Drug Co., Salina. 9 weights.
 T. W. Carlin, Salina. 12 Rx. weights.
 Bloomheart Brothers, Chanute. 5 weights.
 John A. Carter, Chanute. 6 weights; released.
 Walter Lapham, Chanute. 4 weights; all except 2-lb. weight released.
 Chanute Wholesale Grocery, Chanute. 5 weights; released.
 J. A. Spaulding, Dearing. 1 pair Rx. scales.
 Palmer's Opera House, Salina. 5 Rx. weights.
 Zeman Pharmacy, Wilson. 4 Rx. weights.
 E. H. Elliot, Bennington. 1 Rx. weight.
 A. Waller Drug Co., Delphos. 4 Rx. weights.
 C. R. Moore, Delphos. 2 Rx. weights.
 O. J. Benson, Gove. 8 Rx. weights.
 G. W. Rhine, Gove. 5 Rx. weights.
 Ellis Mercantile Co., Ellis. 7 Rx. weights.
 W. H. Pannebaker, Severy. 1 weight.
 The Hubbel Dry Goods Co., Fredonia. 6 weights.
 John Landers, Hiattville. 1 weight.

Name of owner, city, and article condemned.

I. Iman, Burlingame. 1 K. C. computing scale.
 J. H. Ellis, Highland. 1 Rx. weight.
 W. K. Russell, Oneida. 1 Rx. weight.
 J. E. McGrath, Atchison. 1 Rx. weight.
 Byrnes Pharmacy, Atchison. 1 Rx. weight.
 George D. Whitney & Son, Olathe. 4 Rx. weights.
 Dr. J. W. Murray & Son, Hoyt. 7 Rx. weights.
 W. A. Hall, Augusta. 1 pair even balance scales; 3 weights.
 W. E. Peacock, Andover. 1 weight.
 C. W. Ewing, El Dorado. 7 weights.
 H. S. Binford, El Dorado. 3 weights.
 W. A. O. White, Holiday. 24 weights.

Scales, Weights and Measures Condemned.

July 1, 1913, to July 1, 1914.

JULY, 1913.

Name, city, articles condemned, and inspector.

Layton & Neilson, Concordia. 3 Rx. weights. R.
 W. L. McCarty, Concordia. 8 Rx. weights. R.
 W. F. Heitzel, Concordia. 1 Rx. weight. R.
 E. E. Ellis, Pleasanton. 1 pair Anderson's automatic scales. P.
 A. F. DeBackey, Perry. 1 Rx. weight. R.
 I. S. Alton (Illinois Store), Winfield. 9 short weights. P.
 Louis Egle, Winfield. 4 short weights. P.
 Hutchinson Grocery, Winfield. 2 short weights. P.
 Lee Yarbrough, Winfield. 6 short weights. P.

AUGUST, 1913.

Frank Axleys, Arkansas City. 1 pair hanging meat scales. P.
 Messrs. Scott & Putnam, Arkansas City. 4 short weights. P.
 Geo. E. Armstrong, Cheney. 1 pair Standard scales. P.
 W. S. Quisenberry & Co., Cawker City. 1 Rx. weight. R.
 Green Drug Company, Green. 1 Rx. balance. R.
 J. E. Wright Drug Co., Miltonvale. 3 Rx. weights. R.
 The Osborne Pharmacy, Osborne. 2 Rx. weights. R.
 Bixby & Potter, Republic. 4 Rx. weights. R.
 H. J. Chapman, Speed. 6 Rx. weights. R.
 Scandia Pharmacy, Scandia. 2 Rx. weights. R.

SEPTEMBER, 1913.

L. S. Harvey (Dunlap Drug Store), Dunlap. 1 pair Rx. scales. D.
 Andrew Barro, Station Howe of Gross. 1 Dayton scale. P.
 Andrew Barro, Station Howe of Gross. 1 Premier Standard scale. P.
 Dobbs Grain Co., McLouth. 1 short weight. R.
 E. O. Read, Parsons. 8 short weights. P.
 Jardine Grocery Co., Parsons. 5 short weights. P.
 J. M. Green, Parsons. 4 short weights. P.
 G. E. Bartholick, Pittsburg. 1 short weight. P.
 N. L. Haskin, St. John. 1 peck bottomless measure. I.
 Downie Bros., Stafford. 1 one-half gallon vinegar measure. I.
 O. H. Cain, Tonganoxie. 1 Rx. balance. R.

OCTOBER, 1913.

J. W. Archilpohl, Argonia. 3 five-pound weights. P.
 Reichenberger & Fisher, Andale. 1 meat scale. I.
 Bushton Roller Mills, Bushton. 1 Fairbanks platform scale, No. 11. R.
 G. H. Bonjour, druggist, Centralia. 1 Torsion balance, No. 1828. R.
 Council Grove Milling Co., Council Grove. 3 short weights. R.
 Fisher & Hathaway, Elevator & Feed Mill, Council Grove. 2 short weights. R.
 Magerus & Webber, Colwich. 1 counter computing scale. I.
 L. M. Werts, Denison. 8 Rx. weights. R.
 W. R. Frisbey, Delia. 1 Rx. weight. R.
 Farnsworth Drug Co., Holsington. 5 Rx. weights. R.
 Holsington Drug Co., Holsington. 1 Rx. weight. R.
 Vols & Birch, Junction City. 10 Rx. weights. R.
 Joe Summerhouse, Kinsley. 1 counter scale. I.
 Semple Drug Company, La Crosse. 1 Torsion Rx. balance. R.
 Louis Berger, pharmacy, Onaga. 8 Rx. weights. R.
 The Onaga Pharmacy, Onaga. 1 Rx. weight. R.
 W. F. Melton, Raymond. 1 platform scale. I.
 W. B. Sama, Vermillion. 4 Rx. weights. R.
 H. W. Andrews, Wellington. 4 short weights. P.
 Gainvill Mercantile Co., Wellington. 4 short weights. P.
 J. J. Zimmerman, Wellington. 8 short weights. P.

NOVEMBER, 1913.

Name, city, articles condemned, and inspector.

G. W. Williams, Cleveland. 1 pair Perfection 30-pound spring scale. P.
Thos. S. Greer, Edgerton. 1 Rx. weight. R.
J. L. Anderson, Harper. 2 pair hanging spring scales. P.
J. B. Mitchell, Robinson. 2 Rx. weights. R.
S. H. Blakeley, Severance. 1 Rx. weight. R.

DECEMBER, 1913.

Cleverdon Bros., Leavenworth. 2 Rx. weights. R.
Geo. E. Fornay, Turon. 1 pair Rx. scales and 5 Rx. weights. D.

JANUARY, 1914.

Central Coal & Coke Co., Scammon. 8 short weights. P.
J. H. Knopp, Brazilton. 1 pair new Stimpson scales. P.
L. S. Squier, Cherryvale. 1 pair Rx. scales. D.
R. J. Huddleson, Cherryvale. 1 pair Rx. scales. D.
W. W. Taylor, Colony. 1 short and rusted weight. P.
J. E. Brogan, Coffeyville. 1 pair Rx. scales. D.
John F. Conrad, Coffeyville. 5 Rx. weights. D.
Pinson & Son, Galena. 6 short weights. P.
Geo. Allen, Gridley. 1 hanging meat scale. P.
W. G. Jarrett, Galena. 1 pair hanging meat scales. P.
A. E. Michie, Opolis. 1 old and rusty short weight. P.
W. E. Shaefer, Peabody. 1 computing springless scale. I.
Patton Coal & Mdse Co., Rodley. 1 pair old scales and 5 weights. P.

FEBRUARY, 1914.

C. A. Lane & Co., Altamont. 5 short weights. P.
H. K. Mouring, Altamont. 8 short weights. P.
J. B. Gordon, Coffeyville. 5 short weights. P.
Crain & Osborn, Chetopa. 1 pair even balance scales and 5 short weights. P.
Henry Baden Mercantile Co., Independence. 6 short weights. P.
John Deir, Plumb M. Co., Independence. 1 pair K. C. scales. P.
A. Eberhardt, Wakarusa. 1 short weight. I.
Jenkins Bros., White City. 1 old style counter computing scale. I.

MARCH, 1914.

C. A. Stafford, Altoona. 14 short weights. P.
M. Thurman & Co., Altoona. 4 short weights. P.
J. M. Fisher, Caney. 2 short weights. P.
S. H. McCurdy, Lawrence. 1 platform scale weight. S.
Litten & Goodson, Neodesha. 1 short weight. P.
J. R. Heath & Arnold, Neodesha. 4 short weights. P.
Byrnes & Co., elevator, St. Marys. 1 platform scales. R.

APRIL, 1914.

W. D. Fudge, Augusta. 1 pair old style Stimpson scales. P.
H. S. Willard, Manhattan. 3 Rx. weights. R.
Purty Milling Company, Manhattan. 1 platform scale. R.
Peike & Scheer, Paola. 1 counter scale. I.
Fleming & Gebhart, Tassan. 1 Standard computing scale. I.
Woodbine Drug Store, Woodbine. 4 Rx. weights. R.
Geo. Goudie, Osawatomie. 1 computing counter scale. I.

MAY, 1914.

Smiths Drug Co., Washington. 2 Rx. weights. R.
Jehlik Pharmacy, Cuba. 3 Rx. weights. R.
O. A. Stanton & Son, Morrowville. 1 Rx. balance. R.
W. G. Arnold, Mohaka. 1 Rx. weight. R.
H. C. Popham, Parker. 1 Stimpson computing scale. I.
A. Keonig & Co., Greeley. 1 John Chatton & Son meat scale. I.
C. A. Johnson Drug Co., Lynn. 3 Rx. weights. R.
Dr. R. W. Maintz, drugs, Lynn. 3 Rx. weights. R.

JUNE, 1914.

Messrs. Wright, Irland & Company, Bronson. 1 pair Dayton scales, No. 167,553. P.
I. J. Kinyon, drugs, Bern. 2 Rx. weights. R.
W. K. Russell, Oneida. 3 Rx. weights. R.

PROSECUTIONS.

While the writer does not believe in prosecution as a rule, he thinks that flagrant violators of the law should be punished as a warning to future would-be violators. No prosecution will entirely remedy law violation. When people have been thoroughly warned and notified as to the nature of a law, there is no excuse for violation. Hence the several laws of Kansas dealing with food, drugs, sanitation, and scales, weights and measures, with which this division is given to enforce, it seems that the number of violators and prosecutions have been comparatively small in comparison to the total number of inspections made for the enforcement of these laws. The regular prosecutions which terminated during the fiscal year ending July 1, 1913, was 67, and the regular prosecutions which terminated during the fiscal year ending July 1, 1914, was 51, and in addition to these 31 delinquent prosecutions terminated during the months of May and June, 1914, which covered a period from May, 1911, to May 1, 1914. Some trouble has been experienced in trying to obtain reports from the county attorney to whom the cases were originally referred. There are at present 34 cases in the hands of county attorneys and no report in regard thereto can be obtained although during the past two months the county attorneys handling these cases have been politely asked for a reply on these said cases.

During the months of May and June, 1914, three drug violators were referred to county attorneys. Two of these were for the adulteration of spirits of camphor by addition of water and one for substandard and adulterated sweet spirits of nitre. These cases are still pending. One food case on adulterated flour which was found infected with beetles, worms, larvæ, dead remains and excreta, will be tried before the September, 1914, term of the district court at Topeka.

The following is a detailed report on prosecutions which terminated July 1, 1912, to July 1, 1913, July 1, 1913 to July 1, 1914, also delinquent prosecutions which terminated during

the months of May and June, 1914, covering a period from May, 1911, to May, 1914:

Prosecutions Terminated.

July 1, 1912, to July 1, 1913.

VIOLATIONS OF SANITARY LAW.

Name, address, case, and termination.

- F. Schaffer, Bonner Springs. Dirty barber shop. \$1 and costs.
 Peter Charowhas, Topeka. Insanitary candy and ice-cream factory. \$5 and costs.
 C. C. Lamb, Topeka. Insanitary restaurant. \$10 and costs.
 Wm. Rollins, Belleville. Insanitary meat market. \$10 and costs.
 W. E. Vose, Pacific Hotel, Ellis. Insanitary kitchen and ice box. \$10 and costs.
 McCoy & Johnston, Cawker City. Insanitary slaughterhouse. Fines and costs, \$85.50.
 H. Goldenschlag, Wichita. Unlawful sidewalk display. \$25 and costs. Refused payment of fine and went to jail.
 John M. Jewell, Goodland. Insanitary meat market and dirty slaughterhouse. \$50 and costs.
 Wm. Walker, jr., Goodland. Insanitary meat market and slaughterhouse. \$50 and costs.
 R. O. Coleman, Penabosa. Insanitary drug store. \$5 and costs.
 Mont & Shell Henaley, Bucklin. Insanitary place and exposed foods. \$30 and costs.
 J. M. Rollins, Basehor. Insanitary meat market. Dismissed on reform promise.
 John Crawford, Winfield. Insanitary place and refrigerator. \$10 and costs.
 Mrs. A. Schalker, Leavenworth. Insanitary bakery. Case dismissed by court on plea of defense that she had complied with orders of inspector.
 Frank Willett, Topeka. Insanitary refrigerators; two counts. \$5 and costs.
 Geo. L. Edwards, Wichita. Open closet in restaurant kitchen. Case dismissed on full compliance.

VIOLATIONS OF FOOD AND DRUG LAW.

- Steffen-Bretch Ice and Ice Cream Co., Wichita. Manufacture and sale of substandard ice cream. \$25 and costs.
 Fred Powers, Fort Scott. Dirty milk. \$5 and costs—\$12.95.
 Davis Mercantile Co., Topeka. Four counts on reprocessing canned peaches. \$50 and costs; \$12.85 on third count.
 Moulos Bros., Wichita. Substandard ice cream. \$25 and costs.
 Andrew Kritikos, Wichita. Substandard ice cream. \$25 and costs.
 Ed. Cero, Wichita. Substandard ice cream. \$25 and costs.
 J. N. Jurgens, Wichita. Substandard ice cream. \$25 and costs.
 Frau Lucius, Topeka. Violation of medical practice law and food and drug law. Dismissed by court upon payment of costs by defendant and promise never to return to Topeka.
 W. H. Gable, Arcadia. Unlabeled vinegar, short-weight bread, and insanitary condition \$35 and costs.
 Eaton Hotel (S. G. Humphrey, manager), Wichita. Serving substandard ice cream. \$25 and costs.
 G. A. Johnson (Peerless Coffee Mills), Wichita. Adulterated coffee (chicory added). Plea of guilty; \$10 and costs.
 J. J. Pierson, Parsons. Selling decomposed canned fruit. \$10 and costs.
 Biles Bros., Pittsburg. Substandard ice cream. \$25 and costs.
 T. P. Griggs, Pittsburg. Substandard ice cream. \$25 and costs.
 Pappas Bros., Pittsburg. Substandard ice cream. \$25 and costs.
 Otto Schmeckel, Leavenworth. Selling adulterated vinegar. Case not filed by county attorney.
 Colby Bottling Works, Colby. Adulterated concoction of apple cider. Case not filed by county attorney.
 M. L. Probat, Pittsburg. Adulterated and misbranded canned peaches. \$5 and costs.
 M. Pauline, Wichita. Adulterated blackberry, grape, peach and apple ciders; four counts. \$4 and costs.
 Murray & McFarland, Wichita. Adulterated cherry cider. \$2 and costs.
 Snyder Ice Cream Co., Wichita. Manufacture and sale substandard ice cream. \$25 and costs.
 O. W. Dieterick, Topeka. Substandard cream; two counts. Plea of guilty; \$25 and costs. Case appealed to district court. Fine remitted pending future conduct. Paid costs of \$60.
 Foster Bros., Washington. Sale of adulterated and misbranded lard. Fined minimum and costs.
 Topeka Pure Milk Co., Topeka. Substandard ice cream; two counts. \$25 under dairy law. Minimum and costs under food and drug law.
 W. H. Kinney, Carona. Sale substandard ice cream. \$10 and costs.
 A. M. Lewellen, Gaylord. Adulterated essence of peppermint. \$11 and costs.
 W. A. Pendlebury, Horton. Sale adulterated lard. \$10 and costs.
 O. G. Duff, Horton. Sale adulterated lard. \$10 and costs.
 Bert Moore, Inman. Adulterated spirit of peppermint. \$10 and costs.
 Huggins & Huggins, Coffeyville. Sale adulterated lard. Fine and costs, \$18.40.
 J. B. Gordon, Coffeyville. Sale adulterated lard. Fine and costs, \$17.65.
 E. M. Lanigan (American Tea Co.), Coffeyville. Adulterated flavor of lemon. Case dismissed. Defendant paid costs.

VIOLATIONS OF WEIGHTS AND MEASURES LAW.

Name, address, case, and termination.

- H. H. Stine, St. Francis. Selling short-weight bread. \$5 and costs.
 Arkansas City Produce Co., Arkansas City. Misbranded and short-weight butter; 20 counts. Plea of guilty to five counts. Fine and costs, \$160.85.
 Bidwell Co., Wichita. Short-measure canned apples and syrup. \$30 and costs.
 B. F. Copley, Wichita. Short-weight butter. \$100 and costs.
 C. P. Kelso (Kelso Grocery Co.), Pittsburg. Short-weight flour. \$5 and costs.
 Nick Farero, Corona. Short-weight sacked corn chop. \$5 and costs.
 Dennis Ranvey (French Coöperative Store), Corona. Short-weight sacked corn chop. \$5 and costs.

VIOLATIONS OF HOTEL LAW.

Name, place, case, and determination.

- T. H. Correll, Ellsworth. Common cup and common towel. Plea of guilty; fined.
 Frank Rogers, Ellsworth. Common cup and common towel. Plea of guilty; fined.
 Commercial Hotel (L. & M. Van Curen), Clay Center. Short top sheets. Fined minimum and costs.
 Jacob Forster, Abilene. Common towel. \$10 and costs.
 Miss Mesling, Abilene. Common towel. \$10 and costs.
 Wm. Lynch, Leavenworth. Violating hotel law. Small fine and rooms closed.
 Mrs. Emma Pearson, Wichita. Roller towel. Dismissed; claimed permission had been given to use private towel.
 Thos. Larkin, Leavenworth. Violation hotel law. House closed; case dismissed.
 Nicholas Copple, Fort Scott. Violation hotel law. House closed; case dismissed.
 Fred C. Thomas, Florence. Violation hotel law. \$10 fine.
 G. W. Carson, Kansas City. Violation hotel law. \$10 and costs.
 J. D. Crawford (Model Hotel), Winfield. Short sheets; no fire extinguishers; insanitary. \$5 and costs.
 W. J. Trousdale, Winfield. Dirty hotel and noncompliance with hotel requirements. Fined \$37.75.
 Mrs. Josie Possing, Pittsburg. Violation hotel law. \$25 and costs and house closed.
 C. F. Gibbs, Wichita. Violation hotel law. Defendant closed place and left town before the case was brought.
 Mrs. Hattie Hayes and L. Steinbuschel, Wichita. Hotel law; no fire escapes on front; no ropes at third floor. Fined minimum and costs.
 C. F. Gibbs and Mrs. D. S. Hersey, Wichita. Hotel law; no fire escapes nor ropes. Fined minimum and costs.

VIOLATIONS OF LINSEED OIL AND TURPENTINE LAW.

- B. D. Hickey, Chanute. Adulterated linseed oil. \$10 and costs.

Detailed Report on Prosecutions.

July 1, 1913, to July 1, 1914.

JULY, 1913.

Name, place, case, and determination.

- J. A. Warren, Coffeyville. Adulterated ice cream. \$25 and costs. I.
 Taylor Gro. Co., Kansas City. Illegal sidewalk display. \$25. P.
 Ofaner & Mann, Kansas City. Illegal sidewalk display. \$25. P.
 J. T. Makinney, Columbus. Substandard ice cream. \$25 and \$4.30 costs. D.
 Lichty Bros., Wellington. Swelled canned goods and excessive tin. \$10 and costs. R.
 Inter-Ocean Mills (A. Fassler), Topeka. Short-weight flour. Case dismissed. D.

AUGUST, 1913.

- Frank J. Guame, Goffa. Short-weight ice. \$10 and \$12.35 costs. B.
 W. H. McCumber, Wichita. Adulterated cider. \$10 and costs. I.
 E. Welsh (Pfeister Cigar Co.), Wichita. Adulterated cider. \$50 and \$42.15 costs. I.

SEPTEMBER, 1913.

- G. W. Livesey, Pittsburg. Insanitary condition of grocery and meat market. \$5 and costs. P.
 Mrs. James Hulsapple, Scranton. Illegal cider. \$5 and costs. I.
 N. Farba, Wichita. Adulterated olive oil. \$10 and costs. D.
 E. Oohlma, Wichita. Adulterated olive oil. \$10 and costs. D.
 W. D. Nuheim, Holton. Ice cream below standard. \$3 and costs. B.
 J. A. Charles, Holton. Ice cream below standard. \$3 and costs. B.
 H. H. Baible, Galena. Substandard ice cream. \$25 and costs. D.
 Dr. R. E. Buckmaster, New Ulysses. Illegal spirits of camphor. \$1 and costs. R.

OCTOBER, 1913.

- W. D. Quisenberry & Co., Cawker City. Adulterated spirits of camphor. \$75.42 and costs. R.
 G. H. Arnett & Co., Anthony. Insanitary slaughter house. \$13.50 and \$6.50 costs. P.

Name, place, case, and determination.

- McReynolds & Rose, Anthony. Insanitary slaughter house. \$13.50 and \$6.50 costs. P.
 W. J. Hartley, Anthony. Adulterated extracts. \$1 and \$6.50 costs. P.
 M. G. Weir, agent for T. B. Miller, Wellington. Short-weight apples. \$5 and \$6.50 costs. P.
 I. M. Horton, Caldwell. Insanitary slaughter house. \$5 and \$6.50 costs. P.
 Chas. Lundblade (Lundblade & Bolinger), Great Bend. Unprotected outside and inside food display. \$10 and costs. I.
 Dunn Mercantile Co., Wichita. Eggs unfit for food. \$10 and costs. D.
 F. W. Woolworth & Co. (C. W. Hanchett, mgr.), Topeka. Adulterated bay rum and witch hazel. \$10 and costs. R.
 C. A. Kessler (D. S. Atteberry, mgr.), Topeka. Adulterated bay rum and substandard witch hazel. \$10 and costs. R.

NOVEMBER, 1913.

Name, place, case, and determination.

- E. Bechard, Clyde. Adulteration of raw and boiled linseed oil. \$10 and cost. R.
 Clyde Drug Co., Clyde. Adulterated essence of peppermint and spirits of nitre. \$10 and costs. R.
 James Weite, Druggist, Topeka. Adulterated essence of peppermint and tincture of opium. \$3 and costs. R.

DECEMBER, 1913.

- W. E. Bidwell, of Bidwell Co., Wichita. Short-weight apple measure. \$5 and \$5 costs. P.

JANUARY, 1914.

- Paul Castagno, Carona. Unmarked short-weight bread. \$5 and \$5 costs. P.

FEBRUARY, 1914.

- Wm. H. Hazelton and Ralph Lightner, Allen Bottling Co., Wichita. Adulterated and misbranded apple-base cider. \$1 and \$69 costs. I.

MARCH 1914.

- M. H. Keefer, Kansas City. Substandard Fowler's solution. \$25 and costs. R.
 Jacob Brizendine, Salina. Imitation honey as honey. \$1 and costs. B.
 Edward Poehler, Hutchinson. Insanitary bakery display. \$10 and \$22.55 costs. I.
 W. R. Weyand, Durham. Misbranded peach cider. \$25 and \$38.60 costs. I.
 E. C. Hoffman and J. C. Froebes, Caney. Insanitary slaughterhouse. \$1 and \$6 costs. P.
 Baughman Bros., Topeka. Adulterated ice cream. Found not guilty by jury. I.
 B. F. Goodman, Topeka. Adulterated ice cream. Complaint drawn and sworn to, but not filed by county attorney. I.
 N. J. Petro, Topeka. Adulterated ice cream. Complaint drawn and sworn to, but not filed by county attorney. I.
 R. V. Wilson, Topeka. Adulterated ice cream. Complaint drawn and sworn to, but not filed by county attorney. I.
 Frank Hobart, Topeka. Adulterated ice cream. Complaint drawn and sworn to, but not filed by county attorney. I.
 C. W. Kohl, Topeka. Adulterated ice cream. Complaint drawn and sworn to, but not filed by county attorney. I.

APRIL, 1914.

- A. L. Sumption, Coldwater. Insanitary slaughterhouse. \$1 and \$5 costs. P.
 G. E. Mayboy, Coldwater. Insanitary slaughterhouse. \$1 and \$5 costs. P.

JUNE, 1914.

- G. Burchard, Kansas City. Short-weight butter, ½ ounce. \$10 and given stay. Board and city inspector.
 W. F. McCue, Kansas City. Short-weight butter, 7¾ ounces. \$100 and 30 days in jail. Served one day in jail and paid fine plus \$10 to purchaser of butter. Board and city inspector.
 Nick Nonewitz, Kansas City. Short-weight ice. \$10 and given stay on \$5. Board and city inspector.
 Ed. Maxwell, Kansas City. Short-weight ice. \$10 and given stay on \$5. Board and city inspector.
 Lester W. Dulin, Kansas City. Keeping rotten meat for sale in his ice box. \$50 fine, but given stay on good behavior. Board and city inspector.

Delinquent Prosecutions which Terminated During the Months of May and June, 1914, Covering a Period from May, 1911, to May, 1914.

Name, place, case, date, and report from county attorney.

- Carl Norlin, Johnson. Lard adulterated with cottonseed oil. 4-1-13. Dropped by county attorney. I.
 Dr. J. W. Shepard, Leoti. Adulterated spirits of camphor. 11-20-12. Out of business and dropped by county attorney. R.

Name, place, case, date, and report from county attorney.

- A. B. Zimmerman, Troy. Substandard vinegar. 5-12-11. Dropped by county attorney. I.
 Harrington & Robertson, Coffeyville. Lard adulterated with beef tallow and cottonseed oil stearin. 11-24-12. \$5 and costs. I.
 James Bellow, Beloit. Apple cider adulterated and misbranded. 10-18-13. Out of business and dropped by county attorney. B.
 James Bellow, Beloit. Blackberry cider, adulterated and misbranded. 10-20-13. Out of business and dropped by county attorney. B.
 G. H. Nippert, Beloit. "Cider" adulterated and misbranded. 11-14-13. Out of business and dropped by county attorney. B.
 Ninemyer, Beloit. Misbranded "sweet beverage apple." 11-14-13. Taken under prohibitory law, \$100 and 80 days in jail. B.
 B. F. Henson, through The Englewood Merc. Co., Englewood. Selling lard adulterated with beef tallow. 12-27-12. Out of business, dropped by county attorney. I.
 Rice Bros., Ashland. Adulterated essence of peppermint. 8-23-13. Dropped by county attorney. R.
 M. Buell, Salina. Substandard ice cream. 9-10-18. Dropped by county attorney. B.
 L. H. Kress & Co., Salina. Adulterated bay rum. 9-13-18. Discontinued sale of bay rum, dropped by county attorney. R.
 John Scheideman, La Crosse. Selling, offering for sale for human consumption a diseased animal and parts of animal knowing same to be diseased. 2-2-14. \$50 fine and \$168 costs. H. O.
 Jacob Miller, Wathena. Illegal sweet spirits of nitre. 8-22-13. Investigated but not prosecuted by county attorney. R.
 Jacob Miller, Wathena. Illegal sweet oil. 8-22-13. Investigated but not prosecuted by county attorney. R.
 Geo. McLaren, Troy. Illegal bay rum. 6-13-18. Investigated but not prosecuted by county attorney. R.
 Geo. McLaren, Troy. Illegal spirits of camphor. 6-13-18. Investigated but not prosecuted by county attorney. R.
 L. Charonha, Junction City. Adulterated nuts. 10-14-18. Not guilty. B.
 G. R. Ellis, Kiowa. Misbranded cider. 5-19-13. Sentenced to 1 day in jail and costs of the action. I.
 David Phillips, Coldwater. Adulterated camphor. 4-9-12. Out of business, dropped by county attorney. R.
 Stewart Drug Co., Formosa. Illegal spirits of camphor. 8-26-13. \$5 and costs. R.
 O. E. Lynn, Mankato. Adulterated tincture of iodine. 2-24-13. \$5 and costs. R.
 Mitchell Bros., Valley Falls. Adulterated and misbranded lard. 4-10-12. Dropped by county attorney. I.
 W. H. Geret, Valley Falls. Adulterated and misbranded lard. 4-10-12. Dropped by county attorney. I.
 C. L. Stevenson, Manager, Arkansas Lumber Co., Beverley. Violating linseed-oil law. 9-10-13. \$10 and costs. R.
 A. E. Achterberg, Lincoln Center. Violating linseed-oil law. 9-9-13. \$10 and costs. R.
 Wm. Saenger, Saenger Bros. Hardware Co., Sylvan Grove. Violating linseed-oil law. 9-28-13. \$10 and costs. R.
 W. O. J. Wyner and R. L. Atwood, Greensburg. Adulterated beverage. 9-8-13. No action taken by county attorney. P.
 O. J. Wayland, Greensburg. Adulterated beverage. 9-8-13. No action taken by county attorney. P.
 J. C. Case, Belvus. Violation of linseed-oil law. 4-19-14. Court dismissed case without prejudice to a future action. R.
 Silas A. Welsh, Wichita. Adulterated and misbranded apple cider. 11-4-13. Found guilty by jury; fined \$50 and costs. I.

The writer might add that during the coming year much more attention will be paid to food sanitation work. During the first two weeks in July, 1914, the writer has instructed the municipal and county health officers to "swat" the insani-tary slaughterhouses in their districts. On account of the great volume of work which our traveling inspectors are obliged to perform, this phase of the work is left to the municipal and county health officers to some degree. We want more sanitary grocery and meat displays in our retail stores. Likewise cleaner floors in our wholesale houses. The few canning factories in our state were not found in the best sani-tary condition. All these things need to be remedied and as

the writer said before, we will give a great deal of attention this coming fiscal year to these sanitary details. Regulation 14 which was officially adopted by the Kansas State Board of Health in June, 1914, as herewith given, deals with the sanitation of soda fountains and is self-explanatory:

REGULATION 14. SODA-FOUNTAIN AND ICE-CREAM PARLOR RULES.

(a) Every person or persons operating any place wherein soft drinks or ice cream is sold or offered for sale shall cause the glasses, dishes, spoons and other utensils to be thoroughly washed with pure, clean water before being again used.

(b) Soda fountains and ice-cream parlors are required to have clean, potable, running water for washing utensils, glasses, dishes, dish drains, sinks, counters, etc., and said running water shall be connected with or adjacent to the soda fountain proper, or place where ice cream or soft drinks are sold.

(c) All towels or cloths used for wiping or polishing glasses, dishes, spoons and other utensils, shall be clean.

Many new things will be inaugurated during this fiscal year beginning July 1, 1914, and will be given in a future report.

Respectfully submitted.

LEON A. CONGDON,

*Assistant Chief Food and Drug Inspector,
Chief of the Division of Food and Drugs.*

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BULLETIN

OF THE

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S. J. CRUMBINE, M. D., Secretary and Editor.

W. J. V. DEACON, Registrar.

No. 7.

JULY, 1912.

VOL. VIII.

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Vital Statistics for June, 1912, page 146.

Deaths and Births in Kansas for May, 1912, page 148.

Drug Analysis No. XLI, page 149.

The Scientific principles of Ventilation of Recent Investigations, page 155.

Dealers, are you candling the eggs?

The epidemic of cerebrospinal meningitis has abated.

Leave your work and worry at home when you take your vacation.

Dirty milk and dirty mothers are the chief factors in infant mortality.

"Liberty, education and similar blessings are important, but a man must be **ALIVE** to enjoy them."—*Human Factor*.

Eat lightly of vegetables and ripe fruits, drink moderately of cool water, and the hot season need have no terrors for you.

Dealers in linseed oil are warned to be on the lookout for the adulterated product; it comes chiefly from Omaha and Cleveland.

Kansas curs still continue to bite Kansas people, and many of the curs have been proven to be rabid; seven persons so bitten were received at the Bell Memorial Hospital in one day this month.

STOP! LOOK! LISTEN!

Those who
Expect-to-Rate
as Gentlemen

Will not expectorate on the floor,
Sidewalks, or in public conveyances.

—*Asheville Bulletin.*

VITAL STATISTICS

Reported to the Kansas Board of Health for June, 1912.

CONTAGIOUS AND INFECTIOUS DISEASES.

COUNTIES.	Tuber- culosis.		Typhoid fever.		Diph- theria.		Scarlet fever.		Small- pox.		Measles.		May.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Births.	Deaths.
The State... totals.....	204	26	48	4	24	3	47	1	90	0	104	0	2,782	1,328
June, 1911.....	289	71	87	18	22	8	68	99	89	1	237	4		
Allen.....	0	0	2	0	0	0	0	0	9	0	0	0	34	15
Anderson.....	1	0	0	0	0	0	0	0	0	0	0	0	16	13
Atchison.....	0	0	0	0	0	0	0	0	0	0	0	0	9	6
Barber.....	0	0	0	0	0	0	0	0	0	0	0	0	17	7
Barton.....	2	0	2	0	0	0	0	0	0	0	0	0	37	19
Bourbon.....	0	0	0	0	1	0	0	0	0	0	3	0	24	5
Brown.....	2	0	0	0	0	0	0	0	0	0	0	0	31	13
Butler.....	2	0	0	0	0	0	0	0	0	0	0	0	36	20
Chase.....	1	1	0	0	0	0	0	0	6	0	0	0	19	2
Chautauqua.....	1	1	0	0	0	0	0	0	0	0	0	0	24	8
Cherokee.....	4	3	0	0	0	0	3	0	0	0	2	0	53	31
Cheyenne.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clark.....	0	0	0	0	0	0	0	0	0	0	0	0	24	1
Clay.....	2	0	0	0	0	0	0	0	0	0	0	0	42	7
Cloud.....	0	0	0	0	1	0	0	0	0	0	0	0	36	13
Coffey.....	1	1	0	0	0	0	0	0	0	0	0	0	15	14
Comanche.....	0	0	0	0	0	0	0	0	0	0	0	0	6	3
Cowley.....	3	0	1	0	1	0	1	0	1	0	0	0	52	27
Crawford.....	2	2	1	0	2	0	1	0	0	3	0	0	98	32
Decatur.....	0	0	0	0	0	0	0	0	0	0	0	0	10	3
Dickinson.....	0	0	0	0	1	0	0	0	0	0	0	0	62	17
Doniphan.....	0	0	1	0	0	0	0	0	0	0	0	0	85	11
Douglas.....	0	0	2	0	1	0	0	0	0	0	0	0	13	10
Edwards.....	0	0	0	0	0	0	0	0	0	0	0	0	9	3
Elk.....	0	0	0	0	0	0	0	0	0	0	0	0	12	3
Ellis.....	0	0	0	0	0	0	0	0	0	0	0	0	39	8
Ellsworth.....	2	1	1	0	0	0	0	0	0	0	0	0	12	7
Flinney.....	2	1	0	0	0	0	0	4	0	0	0	0	9	4
Ford.....	0	0	0	0	2	2	0	1	0	0	0	0	21	10
Franklin.....	0	0	0	0	1	0	0	0	0	0	0	0	25	20
Geary.....	1	1	0	0	0	0	0	0	0	0	0	0	26	4
Gove.....	0	0	0	0	0	0	0	0	0	0	0	0	7	1
Graham.....	0	0	0	0	0	0	0	0	0	0	0	0	22	5
Grant.....													2	0
Gray.....													9	1
Greeley.....	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Greenwood.....	0	0	1	0	0	0	0	0	0	0	0	0	14	10
Hamilton.....	0	0	0	0	0	0	1	0	0	0	0	0	2	0
Harper.....	0	0	0	0	0	0	0	0	0	0	0	0	22	10
Harvey.....	0	0	0	0	0	0	0	0	0	0	0	0	34	8
Haskell.....													3	1
Hodgeman.....	0	0	0	0	0	0	0	0	0	0	0	0	4	1
Jackson.....	1	0	0	0	0	0	1	0	0	1	0	0	25	12
Jefferson.....	0	0	0	0	2	0	0	0	0	0	0	0	21	9
Jewell.....													32	7
Johnson.....	0	0	0	0	0	0	0	0	0	0	0	0	15	14
Kearny.....	0	0	0	0	0	0	0	0	0	0	0	0	3	1
Kingman.....	2	0	3	0	0	0	0	0	0	0	0	0	18	11
Kiowa.....													21	5
Labette.....	1	0	1	0	0	0	0	0	0	0	5	0	28	13
Lane.....	0	0	0	0	0	0	0	0	0	0	0	0	6	0
Leavenworth.....	1	0	0	0	0	0	0	0	0	0	0	0	11	14
Lincoln.....	0	0	1	0	0	0	0	0	0	0	0	0	18	7
Linn.....	1	0	0	0	0	0	0	0	0	0	0	0	43	8
Logan.....	0	0	1	1	0	0	0	0	0	0	0	0	3	2
Lyon.....	4	0	3	0	2	0	1	0	1	0	3	0	37	22
Marion.....	2	1	0	0	2	0	0	0	0	0	0	0	35	16
Marshall.....	0	0	0	0	0	0	0	0	0	0	0	0	41	19
McPherson.....													8	18
Meade.....	0	0	0	0	0	0	0	0	0	0	0	0	7	13

CONTAGIOUS AND INFECTIOUS DISEASES—Concluded.

COUNTIES.	Tuberculosis.		Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.		May.	
	Cases...	Deaths...	Cases...	Deaths...	Cases...	Deaths...	Cases...	Deaths...	Cases...	Deaths...	Cases...	Deaths...	Births...	Deaths...
Miami.....	1	0	0	0	0	0	1	0	0	0	0	0	25	17
Mitchell.....	1	0	0	0	0	0	0	0	0	0	0	0	11	11
Montgomery.....	2	0	1	0	0	0	5	0	0	0	0	0	32	16
Morris.....	2	0	0	0	0	0	0	0	0	0	0	0	49	1
*Morton.....	0	0	0	0	0	0	0	0	0	0	0	0	20	0
Nemaha.....	0	0	0	0	0	0	0	0	0	0	0	0	4	0
Nesaho.....	1	0	0	0	0	0	0	0	0	0	0	0	37	11
Ness.....	0	0	0	0	0	0	0	0	0	0	0	0	69	19
Norton.....	0	0	0	0	0	0	0	0	0	0	0	0	9	2
Osage.....	0	0	0	0	1	0	0	0	2	0	0	0	16	8
*Osborne.....	0	0	0	0	0	0	0	0	0	0	0	0	22	11
*Ottawa.....	0	0	0	0	0	0	0	0	0	0	0	0	35	6
Pawnee.....	0	0	0	0	0	0	0	0	0	0	0	0	28	9
Phillips.....	0	0	0	0	0	0	0	0	0	0	0	0	14	6
*Pottawatomie.....	0	0	1	0	0	0	1	0	0	0	1	0	17	5
Pratt.....	0	0	0	0	0	0	0	0	0	0	0	0	27	7
Rawlins.....	0	0	0	0	0	0	0	0	0	0	0	0	12	6
*Reno.....	0	0	0	0	1	0	0	0	0	0	0	0	40	9
Republic.....	0	0	0	0	0	0	0	0	0	0	0	0	28	16
Rice.....	1	0	0	0	0	0	0	0	0	0	0	0	41	21
Riley.....	1	2	0	0	0	0	0	0	0	0	0	0	25	29
Rooks.....	0	0	0	0	0	0	0	0	0	0	0	0	30	9
Rush.....	0	0	0	0	0	0	0	0	0	0	0	0	22	6
*Russell.....	0	0	1	0	0	0	1	0	0	0	0	0	35	7
Saline.....	1	1	0	0	0	0	0	0	0	0	2	0	4	22
Scott.....	0	0	0	0	0	0	0	0	1	0	0	0	34	7
Sedgwick.....	0	0	0	0	0	0	0	0	0	0	1	0	15	0
Seward.....	0	0	0	0	1	0	0	0	2	0	0	0	16	7
Shawnee.....	0	0	1	0	0	0	0	0	0	0	0	0	8	4
Sheridan.....	0	0	0	0	0	0	0	0	0	0	0	0	7	4
Sherman.....	0	0	0	0	0	0	1	0	0	0	0	0	10	11
Smith.....	0	0	0	0	0	0	0	0	0	0	0	0	18	5
*Stafford.....	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*Stanton.....	0	0	0	0	0	0	0	0	0	0	0	0	8	1
Stevens.....	0	0	0	0	0	0	0	0	0	0	0	0	52	19
*Sumner.....	0	0	0	0	0	0	0	0	0	0	0	0	4	3
Thomas.....	0	0	0	0	0	0	0	0	0	0	0	0	6	4
Trego.....	0	0	0	0	0	0	0	0	0	0	0	0	11	12
Wabaunsee.....	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Wallace.....	0	0	2	0	0	0	0	0	0	0	0	0	25	15
Washington.....	0	0	1	0	0	0	0	0	0	0	0	0	3	1
*Wichita.....	0	0	2	0	0	0	1	0	0	0	1	0	42	16
Wilson.....	0	0	0	0	0	0	0	0	0	48	0	0	13	7
Woodson.....	0	0	0	0	0	0	0	0	0	0	0	0	23	14
Wyandotte.....	0	0	0	0	0	0	0	0	0	0	0	0		
Cities:														
Atchison.....	0	0	0	0	0	0	0	0	0	0	0	0	23	13
Coffeyville.....	0	0	1	0	1	0	0	0	0	0	0	0	13	11
Fort Scott.....	1	1	3	0	0	0	2	0	0	0	5	0	9	15
Hutchinson.....	1	4	1	2	0	0	0	0	0	0	0	0	30	21
*Independence.....	7	0	3	0	1	0	2	0	3	0	4	0	11	9
Kansas City.....	4	0	2	0	0	0	1	0	1	0	0	0	119	118
*Lawrence.....	3	0	0	0	0	0	23	0	0	0	17	0	14	13
Leavenworth.....	2	2	1	0	2	0	1	0	0	0	3	0	20	32
Parsons.....	1	4	7	1	1	0	0	0	0	1	0	0	26	10
Pittsburg.....	1	4	0	0	0	0	0	0	0	0	0	0	80	23
*Topeka.....	1	4	0	0	0	0	0	0	0	0	1	0	86	75
Wichita.....	1	4	0	0	0	0	0	0	0	0	1	0	69	51
Institutions.....	187	0	0	0	0	0	0	0	0	0	0	0		

* No report from county health officers.

The two Kansas children who died from hydrophobia last month were worth more than all the dogs in the state, and then some. Suppose it were your child!

DEATHS AND BIRTHS IN KANSAS,

Month of May, 1912.

DEATHS.

Stillbirths not included.

Typhoid fever.....	9	Diseases of liver and adnexa.....	33
Smallpox.....	0	Peritonitis.....	7
Measles.....	13	Other diseases digestive system.....	39
Scarlet fever.....	6	Acutenephritis.....	5
Whooping cough.....	14	Bright's disease.....	88
Diphtheria.....	7	Other diseases genito-urinary system.....	10
Dysentery.....	4	The puerperal state.....	23
Tuberculosis, all forms.....	88	Diseases of the skin, etc.....	6
Cancer, all forms.....	85	Diseases of the bones, etc.....	3
Rheumatism, all forms.....	17	Malformations.....	19
Diabetes.....	16	Diseases of early infancy.....	95
Other general diseases.....	43	Old age.....	74
Meningitis.....	40	Suicides.....	17
Cerebral hemorrhage.....	62	Accidents.....	70
Paralysis.....	30	Homicides.....	7
Other diseases nervous system.....	38	Ill-defined diseases.....	23
Organic heart disease.....	126	Total deaths.....	1,357
Other diseases circulatory system.....	51	Less delayed reports.....	29
Broncho-pneumonia.....	34	Net for May.....	1,328
Pneumonia.....	51		
Other diseases respiratory system.....	30		
Diarrhea and enteritis (under 2 years)....	37		
Diarrhea and enteritis (2 years and over)...	10		
Appendicitis.....	17		

BIRTHS.

Males.....	1,443
Females.....	1,339
White, 2,738.	Colored, 44.
Total births, 2,782.	
Stillbirths, —.	

AGES AT DATE OF DEATH.

Ages.	No.
—1.....	208
1—2.....	60
3—5.....	30
6—10.....	12
11—15.....	23
16—20.....	51
21—25.....	52
26—30.....	53
31—35.....	47
36—40.....	35
41—45.....	38
46—50.....	53
51—60.....	137
61—70.....	177
71—80.....	236
81—90.....	124
91—100.....	15
100—+.....	2
Unknown.....	4
Total.....	1,357

SEX.

Males.....	729
Females.....	628

COLOR.

White.....	1,281
Chinese.....	0
Indian.....	1
Black.....	95

NATIONALITY.

Native.....	1,147
Foreign.....	182
Unknown.....	23

SOCIAL CONDITION.

Single.....	483
Married.....	541
Widowed.....	293
Divorced.....	18
Unknown.....	23

DRUG ANALYSIS No. XLI.

L. E. SAYER, director; L. D. HAVENHILL, chief; G. N. WATSON, analyst; C. M. STERLING, microscopist.

ESSENCE OF PEPPERMINT.*

Lab. No.	Insp. No.	NAME.	City.	Cc. oil in 100 cc. of essence.	Added water.
5536	20143	A. L. Lewellen.....	Gaylord.....	4.86	None.
5467	20080	Red Cross Pharmacy.....	Kansas City, Kan.....	10.25	None.
5488	20101	H. A. Kauneke.....	Wellington.....	Trace.	None.
5497	20110	Cooke & Hodge.....	Sterling.....	9.42	None.

* Essence of peppermint should contain 10 cc. of the oil in each 100 cc. of the preparation, and no added water.

HYDROGEN PEROXIDE.*

Lab. No.	Insp. No.	NAME.	City.	Per cent H ₂ O ₂ .	Cc. N/10 H ₂ SO ₄ to neutralize.	Residue.	Manufacturer.
5508	20121	Fullington & Held...	Clay Center...	3.17	3.37	.0217	F. & G.
5509	20122	W. R. Boal.....	Clifton.....	3.11	3.01	.0207	McPike Dr. Co.

* Solution of hydrogen dioxide should contain about 3 per cent weight of absolute hydrogen dioxide. Total solids from 20 cc. of this solution should not exceed 0.03 gram. The acidity, when determined by the official method, using 25 cc. of the solution and 5 cc. of N/10 potassium hydroxide, should not require less than 2.5 cc. of N/10 sulphuric solution to neutralize. Heavy metals, none.

TINCTURE OF CAPSICUM.

Lab. No.	Insp. No.	NAME.	City.	Per cent alcohol.
5410	20018	Annabil-Almen.....	McPherson.....	90.75
5530	20137	Crescent Pharmacy.....	Glasco.....	50.50

TINCTURE OF GINGER.*

Lab. No.	Insp. No.	NAME.	City.	Per cent alcohol.
5415	20023	Carlin-Supple.....	Solomon.....	75.10
5464	20072	Garfield Pharmacy.....	Kansas City, Kan.....	74.75
5471	20091	Owl Drug Store.....	Englewood.....	87.00
5490	20106	H. G. Collins.....	Wellington.....	94.95

* Tincture of ginger should contain about 91 per cent alcohol.

AROMATIC SPIRIT OF AMMONIA.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Per cent ammonia.	Cc. oil per liter.
5237	9097	Palace Drug Store.....	Dodge City....	.9092	1.40	7.2
5239	9099	Geo. D. Cochran Drug Co....	Dodge City....	.8960	1.10	10.3
5271	80118	Caney Pharmacy.....	Caney.....	.9020	1.48	8.4
5382	20006	Gem Drug Store.....	Ellinwood.....	.8830	3.86	14.5
5469	20089	Rice Bros.....	Ashland.....	.8960	1.88	11.5

Aromatic spirit of ammonia should contain about 12 cc. of oil per liter.

BLUE OINTMENT.*

Lab. No.	Insp. No.	NAME.	City.	Per cent mercury.
5425	20047	F. G. Sommers.....	Kansas City, Kan.....	31.22
5427	20049	Simpson-Block Drug Company.....	Kansas City, Kan.....	31.04
5428	20050	Simpson-Block Drug Company.....	Kansas City, Kan.....	29.19
5430	20052	Grandview Drug Company.....	Kansas City, Kan.....	30.77
5442	20064	Wood & Coldwell.....	Kansas City, Kan.....	31.51

* Blue ointment should contain about 33.50 per cent mercury.

SPIRIT OF CAMPHOR.*

Lab. No.	Insp. No.	NAME.	City.	Added water.	Grams camphor in 100 cc.
5468	20088	Dave Phillips.....	Coldwater.....	21.3	12.66
5472	20092	Henry Ellsworth.....	Spivey.....		9.95
5491	20104	J. S. Watt.....	Salina.....		9.82

* Spirit of camphor should contain 10 grams of camphor in each 100 cc. of the spirit.

TINCTURE OF OPIUM.*

Lab. No.	Insp. No.	NAME.	City.	Grams morphine in 100 cc.
5423	20045	B. W. Otterman.....	Kansas City, Kan.....	1.0260
5436	20058	G. W. Scott.....	Kansas City, Kan.....	.7090
5441	20068	Junction Pharmacy.....	Kansas City, Kan.....	.9846
5447	20069	Russell's Park Pharmacy.....	Kansas City, Kan.....	.6386
5476	20096	E. L. Teagan.....	Norwich.....	1.0990

* Tincture of opium should contain 1.2 to 1.25 grams of morphine in 100 cc. of the tincture.

BAY RUM.

Lab. No.	Insp. No.	NAME.	City.	Per cent alcohol.	Presence methyl alcohol.
5417	20025	Solomon Drug Co.....	Solomon.....	46.44	None.
5872	81209	Mrs. O. Ward.....	Stark.....	42.81	None.
5898	20072	H. C. Low.....	Salina.....	56.90	None.
5892	20016	Reed.....	Salina.....	53.40	None.

SWEET SPIRIT OF NITRE.*

Lab. No.	Insp. No.	NAME.	City.	Per cent ethyl nitrite.
5384	20008	Holsington Drug Co.....	Holsington.....	3.13
5422	20039	W. E. Fowler.....	Brookville.....	1.88

* Sweet spirit of nitre should contain 4 per cent of ethyl nitrite.

OIL OF TURPENTINE.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Refractive index.	Per cent distilling below 162°.
5134	9006	Smith & Lindsay.....	Horton.....	.865	1.4700	90
5136	9008	Luebke & Trompeter.....	Horton.....	.865	1.4700	91
5322	80166	C. O. Gwyn.....	Onaga.....	.867	1.4713	80
5400	20088	M. Gleissner & Son.....	Abilene.....	.863	1.4701	91
5419	20023	A. W. Wilson.....	Kanopolis.....	.865	1.4707	

* Oil of turpentine should have a specific gravity of .860 to .870 at 25° C., and when distilled the larger part should pass over between 155 and 162 degrees.

MISCELLANEOUS OFFICIAL PREPARATIONS.

Lab. No. 5379, Insp. No. 80,216. "Cod Liver Oil." Mrs. O Ward, Stark. Refractive index, 1.4771. Specific gravity, .922. Iodine No. 151.2. Saponification No. 187.5. A pure cod liver oil should have specific gravity of .918 to .922; Iodine No. not less than 140 or more than 150; saponification No. 175 to 185.

Lab. No. 5477, Insp. No. 20,097. "Aqua Ammonia." J. D. Kuhl, Clearwater. Specific gravity, .967; per cent ammonia, 8.09. Shows trace of chlorides. No sulphates or heavy metals present. Ammonia water should contain 10 per cent ammonia.

Lab. No. 5482, Insp. No. ———. "Sassafras Bark." Sample contains moldy and inert bark, about 30 per cent. Sample was probably taken from dead trees. Labeled "Pure Select Sassafras Bark." Sample sent in by Mr. G. H. Blair, Quenemo, for analysis.

Lab. No. 5489, Insp. No. 20,102. "Acetic Acid." Emerson & Harrison, Wellington. Specific gravity, 1.036; per cent acetic acid, 24.5. This sample shows presence of empyreumatic substances. Acetic acid should contain not less than 36 per cent by weight of absolute acetic acid and should have a specific gravity of about 1.045.

Lab. No. 5527, Insp. No. 20,134. "Oil of Sassafras." C. R. Moore, Delphos. Specific gravity, 1.0728; polarization, 2.69°. Oil of sassafras should have a specific gravity of 1.065 to 1.075, and should not deviate the ray of polarized light more than 4 to the right in 100 mm. tube with a temperature of 25° C.

Lab. No. 5535, Insp. No. 20,142. "Tincture of Iodine." B. H. Hockett, Cawker City. Found to contain 6.76 grams of iodine and 4.9 grams of potassium iodide in 100 cc. of the tincture.

Lab. No. 5543, Insp. No. 20,150. "Tincture of Aconite." G. M. Jaquiss, M. D., Edmond. Contained .025 grams of aconitine in 100 cc. of the tincture. Should contain .045 grams to 100 cc. Sample was made from fluid extract.

MISCELLANEOUS NONOFFICIAL PREPARATIONS.

Lab. No. 5463, Insp. No. 11 D. "Fitch's Grains of Health." Declared by the manufacturer to be a "Coffee Substitute." Contains roasted peas and a small amount of coffee. Sample gives test for caffeine.

Lab. No. 5473, Insp. No. 20,093. "Pure Distilled Ginger Beer." C. F. Bucklin, Sawyer. Sample contained .273 per cent alcohol. No saccharin present.

Lab. No. 5474, Insp. No. 20,094. "Ginger Ale." C. F. Bucklin, Sawyer. No alcohol or saccharin present.

Lab. No. 5475, Insp. No. 20,095. "Apple Dandy." C. F. Bucklin, Sawyer. No alcohol or saccharin present. Declared by manufacturer to contain less than .1 per cent sodium benzoate.

Lab. No. 5512, Insp. No. 20,135. "Hanford's Balsam and Myrrh." C. W. Rankin, Wakefield. Responds to test for methyl alcohol.

Lab. No. 5539, Insp. No. 20,146. "Alpha Wafers." A. L. Brieden, Lenora. Wholesaler, Vanatta Drug Company, St. Joseph, Mo. Declared by manufacturer to be for neuralgia and headache, that they are purely vegetable, perfectly harmless, pleasant to take, and are sold under guarantee. The only ingredient in alpha wafers is acetanilid. Misbranded.

Lab. No. 5549, Insp. No. —. "Mayer's Walnut Oil." Manufactured by Mayer's Walnut Oil Company, Kansas City, Mo. Declared by the manufacturer to be the only hair dye in the world made from pure vegetable and oil and to be an absolutely harmless remedy, quickly applied, and will not stain the skin. Sample was found to contain a salt of silver, ammonia, and a fixed oil. Testimonials from the following drug houses state that this preparation has increasing sales: Faxon & Gallagher, McPike Drug Company, Evans Smith Drug Company.

Lab. No. 5555, Insp. No. 16D. "Preservo Fumigating Powder." Sample was essentially sulphur, containing 85.78 per cent. About 3 per cent carbon, and a small amount of aluminum sulphate was present.

Lab. No. 5572, Insp. No. —. "Cancer Cure." J. M. Naylor, Natoma. Sample was essentially potassium carbonate, containing 54.5 per cent. About 27 per cent. moisture and approximately 15 per cent organic matter were present.

Lab. No. 5465, Insp. No. 20,075. "China Paint Oil." Wm. McGeorge, Argentine, retailer. J. R. Brown Varnish and Manufacturing Company, Kansas City, Mo., manufacturers. Sample had flash test, 40°; fire test, 40°; saponification value, 55.74; refractive index, 1.4719; specific gravity, 0.8720. Sample has kerosene odor, has greenish fluorescent color, and responds to Liebermann-Storch reaction for rosin or rosin oil; forms brittle opaque coat on glass within 24 hours.

COFFEE.

BRAND.	Per cent moisture.	Per cent ether extract.	Per cent ash.	Per cent soluble ash.	Per cent insoluble ash.	Per cent caffeine.	Microscopical examination.
Princess "A".....	6.43	11.29	4.06	75.74	24.26	1.15	Chicory present.
Princess "B".....	5.94	12.42	4.10	73.09	26.91	1.30	Chicory present.
Princess "C".....	6.23	11.34	4.13	76.56	23.44	1.15	Chicory present.
Sweet Clover.....	7.38	13.92	4.11	77.77	22.23	1.35	
McLaughlin.....	5.26	13.70	4.14	73.99	21.01	1.53	
Bakerized.....	5.88	12.68	4.33	79.45	20.55	1.55	

LINED OIL.*

Lab. No.	Insp. No.	Specific Gravity	Color.	Sap- naceous value.	Flash test.	Fire test.	Drying test.	Liebermann- Storch reaction for rosin and rosin oil.	Refrac- tive index.	Remarks.
5495	20108	.8855	Fluorescent.	96.15	166°	196°	Opaque coat, eas- ily rubbed off.	.....	1.4779	Mfr. Central Lined Oil Co., Cleveland;
5510	20123	.9290	.....	190.60	299°	355°	Forms good coat on glass.	.....	1.4847	A. & A. Drug Co., retailer, adulterated.
5511	20124	.9085	.....	157.04	180°	215°	Forms sticky coat.	.....	1.4772	C. W. Rankin, Wakefield, retailer; M. A.
5514	9022	.9284	Fluorescent.	189.79	.....	.....	Forms transpa- rent rosin.	.....	1.4836	Hulburt Co., Omaha, mfr. Passed.
5516	9004	.9284	.....	189.79	300°	345°	Forms transpa- rent rosin.	.....	1.4827	C. W. Rankin, Wakefield, retailer; M. A.
5542	20148	.9290	.....	188.45	290°	.....	Forms transpa- rent rosin.	.....	.....	Hulburt, mfr. Adulterated.
5550	.....	.9083	Fluorescent.	147.01	175°	210°	Does not dry prop- erly on glass plate.	.....	.....	Parrott & Son, Wichita. Passed.
5551	15D	.9090	.....	161.85	70°	190°	Dried in 24 hours.	.....	1.4772	Graham Paint and Wall Paper Co., Wich- ita. Passed.
5564	80229	.9290	Greenish yellow.	.....	303°	345°	Dried in 96 hours.	+	1.4787	Hulburt & Co., Omaha, mfr.; Lenora Drug Co., Lenora, retailer. Passed.
5570	80238	.9800	Greenish yellow.	182.72	290°	345°	Dried in 96 hours.	.....	1.4894	Kenwell Drug Co., Council Grove, retailer;
5571	80237	.9800	Darker than normal.	188.45	306°	345°	Dried in 96 hours.	.....	1.4827	Hulburt & Co., Omaha, mfr. Adulter- ated.

*The pharmacopoeial requirements for lined oil are that it have a specific gravity of 0.925 to 0.935; saponification value of 187-195; iodine value, not less than 170; that it have a yellowish color, and should dry on glass plate, forming hard, transparent coat.

The Scientific Principles of Ventilation in the Light of Recent Investigations.

Abstract of an address by THOMAS R. CROWDER, M. D., Chicago, read at the Second Annual School for Physicians and Health Officers, held at the University of Kansas, Lawrence.

Ventilation is a much misunderstood subject. This seems to be due to the continuation of ancient errors in the face of enlightening modern research. The good effects of efficient ventilation and of outdoor living are generally supposed to be due to the chemical purity of the air. They are really due to the coolness, the relative humidity, and the motion of the air, acting on the great field of cutaneous sensibility.

Respiration may affect the chemical purity of the air in three ways: The concentration of carbon dioxide, the concentration of oxygen, and by the supposed excretion of harmful organic bodies with the breath.

Since textbooks on hygiene and on ventilation and heating generally specify that carbon dioxide shall not be allowed to go above a few parts in 10,000 of air, it is supposed that any greater excess acts as a poison. The truth of the matter is quite otherwise; for whatever the percentage of CO_2 in the surrounding atmosphere may be, that in the air of the lungs remains constant at about 5 per cent of an atmosphere, and it is maintained so by the action of the respiratory center. The air of the lungs is never pure air; it never even remotely approaches pure air; and no one breathes pure air into his lungs. At each breath we take back into the alveoli the expired air contained in the nose and larger bronchi, and this constitutes about one-third of the whole inspiration. This reinspiration is necessary in order to keep the CO_2 of the blood from falling too low. No excess of CO_2 enters into our bodies by breathing the atmosphere of the worst ventilated rooms, where the CO_2 certainly does not reach a higher concentration than 1 per cent of the atmosphere. The only result of breathing such an excess of CO_2 is a slight increase in the depth of respiration, which is exactly adjusted to keep the concentration of CO_2 in the alveolar air at the normal 5 per cent of an atmosphere.

It has been pointed out by Lehmann and Hill that men who tend the fermentation vats in breweries work for long hours in an atmosphere containing 0.5 to 2.5 per cent of CO_2 and that they are healthy and long lived. Many investigators have subjected themselves or others to an atmosphere artificially charged with CO_2 , and

the results have uniformly shown that less than 3 or 4 per cent has no influence on the health of those who breathe it and can not be detected by them through any subjective channels.

The belief long obtained that the ill effects of confined and re-breathed air were due to the diminution of oxygen. Owing to the power of the hemoglobin to unite chemically with the oxygen of the air, the blood can adapt itself to great variations in oxygen concentration. It is able to take its full saturation from the alveolar air, which normally contains only about 15 per cent; on the other hand, it is not able to take up more oxygen even though the alveolar concentration is increased above the normal by artificial means. There is always, under normal conditions, a physiologic excess of oxygen in the air. Pettenkofer subjected himself to an atmosphere containing only 16 per cent with no ill effects. The assistants of Flugge remained in a small air-tight cabinet for three or four hours with oxygen reduced by 1.5 to 2 per cent, and experienced no ill effects. Benedict kept men in an air-tight chamber of less than 200 cubic feet for almost two weeks, with oxygen reduced for long periods by more than 1 per cent, and he could detect no influence upon metabolism and no effect upon the senses of the occupant. Hill placed a group of students in a small closed chamber, where they reduced the oxygen to 16 per cent and raised the CO_2 to nearly 4 per cent. There was too low a percentage of oxygen to support combustion, but of this the occupants were quite unaware, and their health was not affected.

The experimental evidence shows that a decrease of oxygen in the air, unless this goes lower than about 15 or 16 per cent, is not perceived and produces no known harmful effects. A decrease of 1 per cent from the normal has not the slightest effect upon health or comfort or on the efficiency of labor; and a decrease of 1 per cent is rarely if ever exceeded in crowded rooms.

It follows that increase of CO_2 and decrease of oxygen far beyond that found in the worst ventilated rooms is of no importance to the health or comfort. Forced to admit this fact, the hygienist has fallen upon the hypothesis that organic poisons are exhaled into the air, and has attributed to these the discomfort so often observed. It is necessary, he says, to keep the CO_2 below 10 parts in 10,000 of air, so that organic poisons may not collect to a harmful extent. For this hypothesis we are largely indebted to Pettenkofer.

The evil smell of crowded rooms is commonly accepted as evidence that the air is poisoned. Pettenkofer placed his limit of

CO₂ at what he actually found to be present when one entering could just begin to detect the odor. This smell of crowded room is, however, only detected by one who comes in from without. Those who help produce it are unaware of and unaffected by it. Flugge points out that while we naturally avoid an odor that excites disgust, its offensiveness does not prove its poisonous quality. Personal cleanliness has much to do with the odors of crowded rooms. They bear no constant relation to the degree of contamination of the air by the products of respiration. If everyone were perfectly clean we should be practically rid of them. Their effect is psychic rather than toxic.

The first serious attempt to demonstrate poisons in the expired air was made by Brown-Sequard and D'Arsonval, in 1887-'88. They injected into rabbits and guinea pigs the condensation water from the breath, producing serious symptoms; and in a second group of experiments they made rabbits breathe the expired air of other rabbits by leading the air through successive air tight cages; after a variable time the rabbit in the last cage died. They concluded that they had proven the existence of a toxic principle in the expired air of animals, and that this was of basic nature. It was soon shown by many other workers that this conclusion was wrong. It was found that an equal volume of distilled water was about as harmful as the water condensed from the breath, and that this water contains no poisons in solution.

The experiment of the cages of rabbits was repeated many times, and it was found that the animals die only when they have so vitiated the air by decreasing its oxygen and increasing its CO₂ that it can no longer support life. The animals die only after the CO₂ reaches a proportion of 10 to 12 per cent and the oxygen has been reduced to 8 or 10 per cent. Hill has very recently repeated these experiments, in one case leading the air from a chamber containing three rats into a cage containing a guinea pig, and in another case leading the air from a chamber containing three rats into another chamber also containing three rats. He says: "The guinea pig lived in an atmosphere containing 3½ per cent of carbon dioxide and put on 100 grams of weight in three weeks, doing quite as well as another half-grown guinea pig kept under normal conditions. The rats in the second chamber did no less well. Thus the evidence obtained from this kind of experiment as to the existence of a poison in expired air is wholly negative. Brown-Sequard's result must be ascribed to suffocation arising from failure in experimental method."

These experiments are all against the existence of an expired poison, but they furnish no substitute for the poison theory. Something causes distress in crowded rooms, and the benefits of out-door life are beyond question. What is it causes the benefit in the one case and harm in the other? Experiments on human beings and under natural conditions have recently answered this question satisfactorily.

Flügge confined people in a small cabinet of about 100 cubic feet for three or four hours without fresh air. During this time the CO_2 was increased from its normal 0.04 per cent to 1.5 or 2 per cent, with a proportionate decrease in the oxygen, yet these conditions could be borne indefinitely without ill effects provided the air was kept cool. Hill placed eight students in a similar air-tight cabinet, where they were forced to rebreathe their own and each other's exhalations until the CO_2 sometimes reached 4 per cent and the oxygen was reduced to 16 per cent, and they also suffered no ill effects so long as the air was kept cool. Hough did much the same thing, without harm to his students. Even more remarkable are the results of Benedict. He kept men in an air-tight chamber for from two hours to ten days and more, without the addition of fresh air other than the introduction of sufficient oxygen to replace that consumed by the body and the removal of CO_2 by caustic soda; but the respiratory contamination was almost constantly sufficient to maintain the CO_2 around 1 per cent and sometimes more than 2 per cent. Throughout all of these experiments no symptoms of illness or discomfort developed so long as the temperature and moisture were kept low. Tests for psychic fatigue also gave negative results when the temperature and moisture were kept low.

The effects were very different, however, when temperature and humidity of air of the cabinet were allowed to increase. When the temperature rose to 80°F . with moderate humidity, or to about 72° or 73° with high humidity, practically all persons began to show depression, headache, dizziness and a tendency to nausea, with minor differences in susceptibility; but the results uniformly demonstrated that the ill effects are independent of the degree of contamination of the air with the products of respiration, and are closely related to temperature and humidity. When the temperature of the surface of the body reaches 93° to 95° in healthy people, discomfort and mild illness is produced regardless of the air purity or air impurity. The ill effects are due to the inability of the air to take up the excess of heat from the body.

The heat constantly formed in the body is brought to the surface by the warm blood stream, and it must be removed. About 80 per cent of it is transmitted to the air through the skin. If the air is cool it takes up the heat rapidly and the stream flows on; if

the air is hot the surface becomes flushed, blood stagnates in the skin, and metabolism is depressed. When discomfort appeared the people in the cabinet were allowed to breathe the pure outside air through a tube, and it gave them no relief; nor did the highly contaminated air of the cabinet produce any effect when breathed through a tube by one on the outside. But the symptoms of discomfort could be almost immediately relieved by putting the air of the cabinet in rapid motion by means of an electric fan, by lowering the temperature, or by drying the air. These physical changes make the air more capable of taking up the excess of body heat, and on this the good effects depend.

It seems to be established beyond any reasonable doubt that the discomfort we know as vitiated air, closeness, stuffiness, inefficient ventilation, etc., is due solely to physical conditions which lead to heat stagnation in the body. The high temperature of the atmosphere, its moisture and its stillness are responsible for the bad effects. The good effects of efficient ventilation and of outdoor treatment are not due to the chemical purity of the air, but are due to its coolness, its relative humidity and its movement, and to the ceaseless variation of these qualities. Hill has wisely given prominence to this matter of variation.

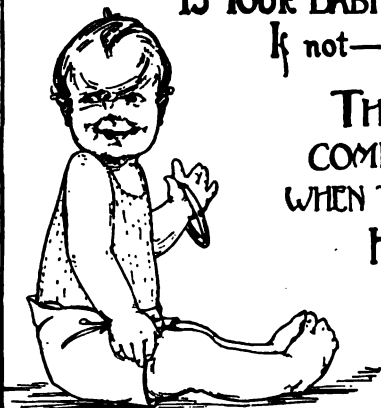
Nothing that is said should be interpreted as an argument against the benefits of fresh air and the outdoor life. Quite the reverse is true. When many people are crowded together in a small space they very soon overheat the air, and its depressing effect is added to by its stillness and the moisture inhaled with the breath. More air and cooler air, which is the only air possessing the quality we generally recognize as freshness, must be supplied.

From this it follows that the impulsion of hot air into a room is the most objectionable of all systems of ventilation. Cool air and radiant heat are the ideal combination, and the old-fashioned open fireplace has much to recommend it. It is the heat and windlessness that cause the trouble; and people should go more and more into the open, not because they may there breathe chemically purer air, but because its coolness and its constant motion stimulate the skin, increase metabolism, and aid in the development of a sturdy and resistant body. Herein lie the hygienic and therapeutic virtues of the open air. We can not take up more oxygen than is required to do our work, and this can be readily supplied even by a partially exhausted atmosphere; but we can make more heat if the air will take it, and in doing this we both consume more oxygen and burn our fuel to better advantage. This is the basis of the outdoor treatment of tuberculosis, where to increase metabolism is so important. We may help to prevent many ills by supplying our houses, our schools, and our work places with cool, circulating air. We need to develop a new point of view; the success of ventilation depends much more on supplying proper physical conditions for the outside of the body than chemical conditions for the lungs. A little cold air may be vastly better than a large amount of warmed air.

COMFORT vs LOOKS

IS YOUR BABY HAPPY IN HOT WEATHER?

If not—you're to blame.



THIS LITTLE TOT IS
COMFORTABLE AND HAPPY
WHEN THE SUMMER DAYS ARE HOT.

HE IS DRESSED RIGHT
TO STAND THE HEAT.

THIS UNHAPPY LITTLE CODGER
IS ALL FUSSED UP AND AS A
RESULT HE IS HOT
AND UNCOMFORTABLE
HE IS DRESSED WRONG
FOR HOT DAYS.

DON'T DRESS YOUR BABY TO
MAKE A GOOD SHOW OF
HIM—DRESS HIM TO
KEEP HIM COMFORTABLE
AND HAPPY.



Chicago Health Department.

BULLETIN

OF THE

Kansas State Board of Health.

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No. 8.

AUGUST, 1912.

VOL. VIII.

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Keep on plugging!

The wages of filth is disease.

Are you a swatter, or a quitter?

Look well to the wholesomeness of the water supply.

It won't hurt you to sweat a little this hot weather—go to it!

The prevention of disease is a social service of the highest type.

Is there any right that is more important than the right to live?

It is said by those who are supposed to know that an American dies every minute from a preventable cause.

There have been 85 deaths from whooping cough during the first six months of 1912, a greater fatality than from any other contagious disease of childhood; 19 more deaths than from diphtheria and croup, 28 more than from measles, and 52 more than from scarlet fever, and yet in many communities little or no precaution is taken to prevent the spread of the disease.

VITAL STATISTICS

Reported to the Kansas State Board of Health for July, 1912.

CONTAGIOUS AND INFECTIOUS DISEASES.

COUNTIES.	Tuber- culosis.	Typhoid fever.	Diph- theria.	Scarlet fever.	Small- pox.	Measles.	June.	
	Cases. Deaths.	Cases. Deaths.	Cases. Deaths.	Cases. Deaths.	Cases. Deaths.	Cases. Deaths.	Births.	Deaths.
The State... totals.		119 9	20 1	67 1	13 0	71 0	2,597	1,178
July, 1911.	231 33	20 2	23 1	74 10	23 0	0 0		
Allen	2 0	0 0	0 0	5 0	0 0	0 0	37	20
Anderson	0 0	0 0	0 0	0 0	0 0	0 0	14	5
Atchison	0 0	0 0	0 0	0 0	0 0	0 0	11	4
Barber	4 0	0 0	0 0	0 0	5 0	0 0	15	7
Barton	0 0	0 0	0 0	0 0	0 0	0 0	33	11
Bourbon	0 0	1 0	0 0	0 0	0 0	0 0	18	6
Brown	0 0	2 0	0 0	0 0	0 0	0 0	39	12
Butler	4 0	0 0	0 0	1 0	0 0	0 0	35	3
Chase	4 0	0 0	0 0	0 0	0 0	0 0	18	10
Chautauqua	0 0	0 0	0 0	1 0	0 0	0 0	10	10
Cherokee	0 0	0 0	0 0	0 0	0 0	0 0	77	30
Cheyenne	0 0	0 0	0 0	0 0	0 0	0 0	1	0
Clark	0 0	0 0	0 0	1 0	0 0	0 0	9	2
Clay	0 0	0 0	0 0	0 0	0 0	0 0	27	8
Cloud	3 2	0 0	0 0	0 0	0 0	0 0	53	15
Coffey	1 0	0 0	0 0	0 0	0 0	0 0	13	7
Comanche	0 0	0 0	0 0	0 0	0 0	0 0	10	2
Cowley	0 0	2 0	0 0	0 0	0 0	0 0	34	34
Crawford	1 0	0 0	0 0	0 0	2 0	0 0	66	18
Decatur	0 0	0 0	0 0	0 0	0 0	0 0	3	2
Dickinson	0 0	0 0	0 0	0 0	0 0	0 0	21	10
Doniphan	1 0	1 0	0 0	0 0	0 0	0 0	33	9
Douglas	2 0	0 0	0 0	0 0	0 0	0 0	11	4
Edwards	1 0	0 0	0 0	1 0	0 0	0 0	16	1
Ellis	0 0	0 0	0 0	0 0	0 0	0 0	5	3
Ellsworth	0 0	0 0	0 0	0 0	0 0	0 0	22	8
Finney	0 0	0 0	0 0	0 0	0 0	1 0	19	3
Ford	1 0	0 0	0 0	0 0	0 0	0 0	13	8
Franklin	1 0	0 0	0 0	0 0	0 0	0 0	27	10
Geary	1 0	1 0	0 0	1 0	0 0	1 0	32	25
Gove	2 0	0 0	0 0	0 0	0 0	0 0	14	8
Graham	0 0	0 0	0 0	0 0	0 0	0 0	3	2
Grant	0 0	0 0	0 0	0 0	0 0	0 0	0	0
Gray	0 0	0 0	0 0	0 0	0 0	0 0	2	2
Greeley	1 0	0 0	0 0	0 0	0 0	0 0	9	7
Greenwood	3 1	0 0	0 0	0 0	0 0	0 0	5	0
Hamilton	0 0	0 0	0 0	1 0	0 0	0 0	15	7
Harper	0 0	0 0	0 0	0 0	0 0	0 0	0	0
Harvey	0 0	0 0	0 0	2 0	0 0	0 0	37	11
Haskell	0 0	1 0	0 0	0 0	0 0	0 0	2	0
Hodgeman	1 0	0 0	0 0	0 0	0 0	1 0	3	1
Jackson	0 0	0 0	0 0	0 0	0 0	0 0	21	5
Jefferson	0 0	0 0	0 0	0 0	0 0	7 0	14	13
Jewell	2 0	1 0	0 0	0 0	0 0	0 0	23	10
Johnson	2 0	0 0	0 0	0 0	0 0	0 0	13	13
Kearny	4 0	0 0	0 0	0 0	0 0	0 0	2	0
Kingman	0 0	0 0	0 0	0 0	0 0	0 0	20	4
Kiowa	0 0	0 0	0 0	0 0	0 0	0 0	22	1
Labette	0 0	0 0	0 0	0 0	0 0	0 0	15	14
Lane	0 0	0 0	0 0	0 0	0 0	0 0	3	1
Leavenworth	0 0	0 0	0 0	0 0	0 0	0 0	14	11
Lincoln	1 0	1 0	0 0	0 0	0 0	0 0	17	8
Linn	0 0	0 0	0 0	0 0	1 0	0 0	31	7
Logan	0 0	0 0	0 0	0 0	0 0	0 0	1	5
Lyon	5 1	0 0	0 0	1 0	0 0	0 0	39	14
Marion	1 0	0 0	0 0	0 0	0 0	0 0	35	21
Marshall	0 0	0 0	0 0	0 0	0 0	0 0	43	23
McPherson	0 0	0 0	0 0	0 0	0 0	0 0	36	12
Meade	0 0	0 0	0 0	0 0	0 0	0 0	12	3

CONTAGIOUS AND INFECTIOUS DISEASES—Concluded.

COUNTIES.	Tuberculosis.		Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.		June.	
	Cases..	Deaths..	Cases..	Deaths..	Cases..	Deaths..	Cases..	Deaths..	Cases..	Deaths..	Cases..	Deaths..	Births..	Deaths..
Miami			0	0	0	0	0	0	0	0	0	0	30	22
Mitchell			0	0	1	0	0	0	0	0	0	0	25	7
Montgomery			5	0	0	0	0	0	1	0	1	0	35	19
Morris													22	6
Morton			0	0	0	0	0	0	0	0	0	0	8	0
Nemaha			1	0	0	0	0	0	0	0	0	0	40	7
Neosho			2	0	0	0	0	0	0	0	0	0	39	25
Ness			2	0	0	0	1	0	0	0	0	0	7	1
Norton			0	0	0	0	0	0	0	0	0	0	21	6
Osage			2	0	0	0	0	0	0	0	0	0	22	7
Osborne													18	9
Ottawa			0	0	0	0	0	0	0	0	0	0	19	5
Pawnee			1	0	0	0	0	0	0	0	0	0	11	6
Phillips			0	0	0	0	0	0	0	0	0	0	11	7
Pottawatomie													23	14
Pratt			2	0	1	0	0	0	0	0	0	0	22	4
Rawlins			0	0	0	0	0	0	0	0	0	0	4	5
Remo													38	10
Republic			0	0	0	0	5	0	0	0	0	0	30	14
Rice			2	0	0	0	0	0	0	0	0	0	26	4
Ellis			1	0	0	0	0	0	0	0	1	0	25	11
Rooks			0	0	0	0	0	0	0	0	0	0	16	5
Rush			0	0	0	0	0	0	0	0	0	0	10	8
Russell													18	7
Saline			1	0	0	0	3	0	2	0	0	0	29	12
Scott			1	0	0	0	0	0	0	0	0	0	7	4
Sedgwick			1	0	0	0	0	0	0	0	0	0	16	6
Steward			0	0	0	0	0	0	0	0	2	0	9	2
Shawnee			0	0	0	0	2	0	0	0	0	0	27	9
Sheridan			1	0	0	0	0	0	0	0	0	0	11	2
Sherman			1	1	0	0	0	0	0	0	0	0	4	1
Smith			0	0	0	0	5	0	0	0	9	0	36	9
Stafford			0	0	0	0	0	0	0	0	0	0	22	4
Stanton													4	0
Stevens			0	0	0	0	0	0	0	0	0	0	4	1
Sumner													49	15
Thomas			0	0	0	0	0	0	0	0	0	0	9	2
Trego			0	0	0	0	0	0	0	0	0	0	8	0
Wabasha			0	0	0	0	0	0	0	0	0	0	21	8
Wallace			2	1	0	0	0	0	0	0	0	0	4	1
Washington			0	0	0	0	1	0	0	0	0	0	30	15
Wichita			0	0	0	0	0	0	0	0	0	0	4	1
Wilson			1	0	0	0	0	0	1	0	2	0	43	12
Woodson			5	0	0	0	0	0	0	0	2	0	9	8
Wyandotte			0	0	0	0	0	0	0	0	0	0	20	11
<i>Cities:</i>														
Atchison			0	0	1	0	0	0	0	0	0	0	20	14
Coffeyville			0	0	2	0	0	0	0	0	0	0	24	15
Fort Scott			6	0	0	0	0	0	0	0	0	0	12	14
Hutchinson			6	0	0	0	1	0	0	0	0	0	32	17
Independence			0	0	0	0	0	0	0	0	0	0	16	9
Kansas City			2	0	0	0	0	0	0	0	2	0	165	91
Lawrence			0	0	0	0	0	0	0	0	0	0	18	10
Leavenworth			1	0	0	0	7	0	0	0	0	0	27	20
Parsons			0	0	0	0	8	0	0	0	0	0	13	13
Pittsburg			3	2	1	0	3	1	0	0	0	0	15	17
Topeka			0	0	2	0	2	0	0	0	1	0	68	58
Wichita			21	1	1	0	0	0	1	0	0	0	64	62
Institutions														

* No report from county health officers.

Do you prefer a high death rate to a trifling increase in the tax rate?

On an average three and a half people die every day in the year from tuberculosis in Kansas.

DEATHS AND BIRTHS IN KANSAS,

Month of June, 1912.

DEATHS.

Stillbirths not included.

Typhoid fever.....	19	Diseases of liver and adnexa.....	23
Smallpox.....	0	Peritonitis.....	16
Measles.....	2	Other diseases digestive system.....	34
Scarlet fever.....	1	Acute nephritis.....	9
Whooping cough.....	16	Bright's disease.....	64
Diphtheria.....	2	Other diseases genito-urinary system.....	9
Dysentery.....	3	The puerperal state.....	17
Tuberculosis, all forms.....	92	Diseases of the skin, etc.....	3
Cancer, all forms.....	91	Diseases of the bones, etc.....	0
Rheumatism, all forms.....	5	Malformations.....	13
Diabetes.....	9	Diseases of early infancy.....	89
Other general diseases.....	36	Old age.....	76
Meningitis.....	11	Suicides.....	19
Cerebral hemorrhage.....	71	Accidents.....	83
Paralysis.....	26	Homicides.....	8
Other diseases nervous system.....	36	Ill-defined diseases.....	21
Organic heart disease.....	121	Total deaths.....	1,183
Other diseases circulatory system.....	27	Less delayed reports.....	12
Broncho-pneumonia.....	22	Net for June.....	1,170
Pneumonia.....	18		
Other diseases respiratory system.....	27		
Diarrhea and enteritis (under 2 years).....	45		
Diarrhea and enteritis (2 years and over),	8		
Appendicitis.....	10		

BIRTHS.

Males.....	1,308
Females.....	1,291
White, 2,534.	Colored, 63.
Total births, 2,597.	
Stillbirths, 82.	

AGES AT DATE OF DEATH.

Age.	No.
-1.....	166
1-2.....	53
3-5.....	9
6-10.....	21
11-15.....	23
16-20.....	41
21-25.....	44
26-30.....	43
31-35.....	49
36-40.....	48
41-45.....	48
46-50.....	45
51-60.....	113
61-70.....	173
71-80.....	203
81-90.....	86
91-100.....	12
100+.....	1
Unknown.....	4
Total.....	1,183

SEX.

Males.....	636
Females.....	546

COLOR.

White.....	1,063
Chinese.....	0
Indian.....	1
Black.....	98

NATIONALITY.

Native.....	975
Foreign.....	182
Unknown.....	25

SOCIAL CONDITION.

Single.....	416
Married.....	513
Widowed.....	229
Divorced.....	7
Unknown.....	17

Public Health and Public Hysteria.

SAMUEL HOPKINS ADAMS, Auburn, N. Y., in the Journal of American Public Health Association.

"*Man lives*," wrote the shrewd and sunny Stevenson, "not by bread alone, but mainly by catch words." In that quaintly expressed truth is found one potent obstacle to hygienic progress. Because the public, led astray by the fear of a word, misbelieves or disbelieves the true danger, we must, perforce, waste strength in fighting shadows, while the real enemy exacts its ceaseless toll of life all but unchecked.

Take an extreme case. Only a few years ago a wretched alien leper was harried from state to state in this supposedly enlightened country until he met a miserable death from terror and exposure, incidentally scaring several hysterical cities quite out of their wits. One of those cities, without alarm or shame, had suffered several years of typhoid fever with a mortality of some two hundred per cent greater than the average rate for this nation. Another, just before the leper's advent, had undergone an epidemic of whooping cough, which materially helped to fill the cemeteries with little graves, but which created no particular comment because it was "only whooping cough"—as if a person dead of one disease were not exactly as dead as a person dead of any other. Again, a third community, which rose in panic against the leprous fugitive, was then and is now notorious for its needlessly high infant mortality. Yet, in the face of real and persistent perils, these places shrank horrified from a casual and baseless threat.

Why? Because the word "leprosy" is made a synonym for terror in the most widely read of all books, the Bible. It is impossible to ascribe the panics to any other cause. Not one American in ten thousand has ever seen a case of leprosy, or knows from personal knowledge anything of the disease. Never has it gained any foothold in this country; there is no reason to believe that it ever will or can. The man with a sore throat—yes, or with an inflamed eye—who brushes against you in a street car, or uses the public drinking cup or towel before you, is a more real peril than any leper. But the leper has upon him the brand of our profoundest tradition. He is marked with the terror of a word.

With cholera the case is at least more apparently logical, in that the great Asiatic pest has reaped its harvest in America in the past. That it will ever again break through our defenses and establish itself is not more probable than that New York will be destroyed

by a tidal wave or Chicago by an earthquake. Nevertheless, there is a panic powder in its name. Who can doubt that if a hundred cases of cholera were to appear in various parts of the country, the government's health authorities could have a million dollars to fight it? How much can they get to-day to handle the hundred thousand dangerous cases of tuberculosis scattered abroad throughout the nation?

When one of our recurrent cholera scares was winging its high-typed way through the daily papers, the health officer of a "threatened" city was visited by a reporter.

"Your paper," said the official, "printed a scare-head article to-day about the Asiatic peril at our doors."

"Yes," said the reporter; "What's new?"

"I've got a better story for you."

"Produce it."

"A graver peril to the city," continued the public's physician, "far graver and far less easily coped with." In fact, I don't mind telling you privately, we're at our wits' end, officially, in the matter."

"Well?" said the newspaper man, impatiently.

"There are over a hundred cases of tuberculosis in the Devil's Hollow tenements," answered the physician, portentously."

The reporter laid his pencil on his paper and regarded the physician with suspicion.

"Is that an unusual number?" he asked.

"No; it's quite usual."

"Then, where's your good story?"

"That's it."

"What?"

"That it's usual."

The reporter took it under consideration. "I see," he said, at length, but I don't think my paper will see."

And it didn't. It never does. Fear is news. The basis for fear is not.

Semihysterical dread still attaches to certain diseases, over others equally or almost equally dangerous. Say "scarlet fever" to the average mother of a family, and she turns pale. Try her with "measles" or "whooping cough" and, unless she is exceptionally well informed, she will laugh off the prospect with some reference to the unavoidable diseases of childhood. From the purely individualistic standpoint she is right. If scarlet fever invades her family, the danger is greater than in the cases of the so-called "un-

important diseases." But the family is not an isolated unit. It is open by a thousand media of communication to the influences of its community, and once measles or whooping cough has gained a start in the community, the peril to every family is as great as from scarlet fever. If statistics show anything, they show that each of these "unavoidable diseases of childhood" (a phrase which itself embodies both ignorance and cowardice), whooping cough and measles, is practically as deadly as the dreaded scarlet fever—dreaded because the public has been misled again by the terror of a word.

Worst of all is that form of hysteria which, for want of a better term, I may call the hysteria of prudery. Hygienists are agreed that, with the exception of tuberculosis, venereal disease is the profoundest peril to health which we have to face in this country. How do we face it? Generally speaking, we don't face it at all. We turn our backs on it, and cover our eyes, and a good many of us emit modulated and well-bred shrieks to indicate that we are properly shocked. Meantime our children grow up uneducated and undefended, except for such casual information or misinformation as they may derive from curious and often prurient fellow ignorance.

That the atmosphere is clearing there can fortunately be no doubt. A speaker may deal frankly with sex-hygiene to-day on platforms from which he would have been angrily driven a few years ago. Newspapers, which have been virtuously indignant at the mere idea of mentioning "private diseases" (except in quack advertisements heavily paid for), will now print, more or less guardedly, the warnings of medical officialdom; and many of them have even cast out the quacks. Within a year a hygienist of national reputation has been invited to speak before several women's clubs on this vital topic.

But it does not follow that proper publicity is yet obtained, or that the general public has been educated, even to the point of receptivity. Not long since the physical director of one of the greatest American colleges prepared a course of lectures to the students on personal hygiene, two of which were to be devoted to venereal disease. After the delivery of the first lecture such a storm of protest was stirred up, mainly by the wives of the trustees and the faculty, that the second address was abandoned.

Again, a certain semiofficial organization requested an expert on public-health topics to deliver a lecture to college men at various institutions, giving them practical advice as to the avoidance of

prevalent diseases. "Very well," said the man, "on one condition; that I be permitted to treat venereal diseases with the same frankness as tuberculosis or typhoid." The request, while not actually withdrawn, was allowed to lapse. The hysteria of prudery was too much feared.

In the matter of the hysterical attitude toward venereal disease, there is a wheel within a wheel. The idea that of the two diseases syphilis is incalculably the worse, and gonorrhea rather unimportant, is a fallacy of the widest acceptance. In fact there does not inhere in leprosy itself more of the terror of a word than in syphilis. Yet, with particular reference to innocent wives infected by their husbands, it is quite certain that as much damage has been inflicted on the race by the little-considered infection as by the superstitiously-dreaded affliction. Syphilis can now be, in many cases, absolutely cured. But no man knows when gonorrhea, apparently eradicated, may reassert itself, to the wreckage of the patient's life and the health of those dearest to him. To reconstruct the hysterical fear of syphilis into the just and logical dread due equally to both the sexual diseases, is perhaps the most vital problem of modern hygienic education.

It all resolves itself into a question of education; patient, unremitting instruction of the public, through the press, the platform, the pulpit, and the schools. Nowhere as in hygiene is that public capacity so needed which Bacon has set down as one part of wisdom, the capacity to learn, not from the names of things, but from things themselves.

An Opportunity—Go To It!

The XV International Congress on Hygiene and Demography will be held in Washington, D. C., September 23-28, 1912. The latest word on hygiene and sanitation will be on exhibition, and the world's most renowned sanitarians and hygienists will speak at the various sessions.

Never again in this generation in the United States will such an opportunity be offered to workers in preventative medicine, sanitation and vital statistics to see, hear and learn practically all the important facts concerning modern hygiene and demography. Certainly no health officer in Kansas can afford to miss it, for it will be a liberal education in itself.

Come, let's all go.

Medicolegal.**CONSTITUTIONALITY OF LAWS PROHIBITING DISCHARGE OF SEWAGE INTO STREAMS.**

(*Town of Shelby vs. Cleveland Mill and Power Co.* [N. C.], 71 S. E. R. 212.)

The supreme court of North Carolina says that the defendant contended, as a matter of law, that it could not be restrained from emptying its raw sewage into the river some miles above the intake of the town's waterworks system, because that, prior to the enactment of the statute forbidding it, it had acquired what is called a prescriptive right to do so; that is, had a right acquired by over twenty years' continuous usage, and that consequently the statute, if it was ever intended to apply to such a case, was void to the extent that it undertook to deprive the defendant of a valuable property right without making compensation therefor.

There are authorities to the effect that, as against a private individual lower down on the stream, the right to pollute it to a greater extent than is permissible at common law may be acquired by prescription (long usage) by an upper riparian owner. But the right which the state was seeking to enforce through the statute in question was a public right—a right to protect the health of the people of the state. As against such public rights, prescription can not run. There is no such thing as a prescriptive right to maintain a public nuisance. It followed that the defendant could not acquire any right by prescription, or otherwise, which would prevent the general assembly of the state, at any time, from exercising its police power to regulate the discharge of sewage into the river.

The issue attempted to be raised by the pleadings that the stream was not dangerously polluted by the raw sewage poured into it from a large mill settlement, working hundreds of operatives, could be of no avail to the defendant. That was a matter for the judgment of the legislature. Such legislation is preventive, and to limit it to cases in which actual injury is shown to have occurred would be to deprive it of its most effective force. To be of value, such laws must be able to restrain acts which have a tendency to produce public injury.

The second proposition of the defendant, that the right to drain its raw sewage into the river could not be taken from it without compensation, necessarily fell with the first. As the defendant could acquire no vested right of the character claimed, there was no taking of property for a public use, and nothing to compensate

the defendant for. The state took no right from the defendant, but only described the conditions on which it might use the river for its private purposes.—*Journal A. M. A.*

The Necessity of Courage.

By EDWARD CUMMINGS, M. D., in *Outdoor Life*.

But screw your courage to the sticking place
And we'll not fail!
—*Macbeth.*

Once everybody thought tuberculosis was always fatal. Now, I suspect, the pendulum has swung too far the other way.

Tuberculosis *is* a curable disease; swing onto that fact for your life. But that it is easily curable, or quickly curable, or that the way to health is steady and straight, never for one moment believe.

The truth about it, well as I can put it in a few words, is this: A case of beginning disease, with symptoms bold enough to show the case to be clearly tuberculosis, may be arrested or apparently cured in from three months to a year, but no case can be absolutely cured in that time. To really and positively *cure* tuberculosis takes *five or six years*.

I mean by that, after the patient has left the sanatorium, or finished his term of close treatment under his physician, he has still to remember he is not the man he was, that he must live a wholesome and rational life, with a strict limitation of his liberties, and keep for years under the guidance of an expert physician.

It is well to know these things at the outset, for the attitude of mind that you take in regard to your malady is a matter of the greatest importance, and you can not take a right view of your case unless you know the facts.

Calmly and coolly, then, settle down to a long siege. Resolve that there is no length you will not go to save your health and life, and that you will wait your cure with patience. But above all and beyond all, like a flag above your house, set up this standard:

I will never, under any circumstances, allow myself to be discouraged.

A standard of courage you must have; it is an imperative necessity. Tuberculosis is a thing of ups and downs, and sometimes the downs are very long and frequent, and seem to grow successively worse. But if you have your mind set on getting well you will ride these billows with a bold heart.

Remember some of the big bold fellows (your comrades in arms) who fought consumption with one hand and won glory with the

other—remember the great Prince William of Nassau, who, racked with coughing, grasped and held the English throne and fought battles which changed the face of Europe. Recall that equally great prince of literature, Robert Louis Stevenson, who “chased the cure” in the Adirondacks, and who, though he died in the prime of life, succumbed, not of tuberculosis, but of apoplexy. Remember well this beloved Stevenson, a gallant heart in a frail body, charming the world from his sick bed. He dared do anything that any man dared do; he laughed deep and loved well, and in the end testified that “sick or well,” he had “had a splendid life of it.” Remember Doctor Dettweiler, the gentle German physician, who first cured himself and then numberless others. And remember the illustrious Trudeau, who “ages ago” went into the snowy Adirondacks a mere bundle of burning fever, weighing “no more than a dried lambskin,” and is yet alive to the fulfillment of a noble destiny.

Think nothing of the long weeks of waiting. Do not be dismayed if the cough hangs on and the weakness continues, and the fever keeps up. Think nothing of a hemorrhage, though it frighten all the others. Do not worry if you lose weight. Do not let a failing appetite disturb you. Don’t expect to sail upon a smooth sea all the way to the port of good health—be prepared for squalls. Simply wait; it is a waiting game. Follow out the order of your simple duties like a soldier. Do not depress yourself and your friends by talking about your afflictions; do not compare notes; do not brood and study; do not whine about your luck. Simply wait; and while you are waiting be serene, and fear nothing—nay, more, be gay!

Be gay! Be always gay! Why not? Did you think you could not? Pshaw! It is only a trick, a habit, a simple accomplishment, almost anybody can learn it. A few there are who can not, and if you are one of these we must manage to forgive you.

But there is one thing we could not forgive, you must not lose your nerve. Fight all the harder when everything goes wrong. Remember always, it is doggedness that does it. Make one mighty resolution to get well, and never go back on that.

And then, when you have won, you shall have made something more than a mere recovery, you shall know yourself for a true fighter, you shall have added something to your moral stature.

Thus, you shall derive new powers from calamity, and turn disease into character.

Saving Mothers and Babies.

To many, if not most of us, the mother with her new-born baby, "new to earth and sky," the beaming-faced, white-capped nurse and the trained physician are a trinity so closely associated with the arrival of the stork that it is more than a surprise to learn that about 50 per cent of the births in this country are known to be attended only by midwives.

"Ignorant of hygiene or of asepsis and antisepsis, malpractice by slovenly and careless midwives," says Carolyn van Blaroom, of the New York Committee on Blindness, in *The Survey*, "is responsible for a large proportion of the instances of unnecessary blindness and for death and mental and physical degeneracy of children, as well as much unnecessary death and invalidism of mothers as well.

"So far as we are able to learn, the United States of America is the only civilized country in the world in which the life and health and future well-being of mothers and infants are not safeguarded so far as possible through the training and control of midwives. In England, where eleven years ago the midwifery situation was strongly analogous to ours at the present time, the problem was faced and met through the establishment of the Central Midwives' Board by an act of Parliament in 1902.

"While it is not possible to reduce the service England has received from trained midwifery to concrete terms, it is significant that during the last nine years, since the enactment of the midwives act, the percentage of deaths among infants in that country has dropped from 151 per 1000 during 1901, to 106 per 1000 in 1910. Although other causes have contributed, it is believed by English workers that the midwives act must be reckoned as one factor in this decline."

The Social Evil.

Social diseases have most important relations with the family. They are distinctly antagonistic to all that the family stands for as a social institution; they are destructive to its health, its productivity and social efficiency. They occasion an enormous sacrifice of potential wealth from the loss of citizens to the state. Moreover, they distill a double poison, they poison not only the health, but the peace, honor and happiness of the family. Their prevention is one of the most pressing problems that confronts us at the present day.

DR. PRINCE A. MORROW.

Virus of Poliomyelitis in Stomach and Intestines.

In a pamphlet recently issued from the Rockefeller Institute Medical Research, Flexner, Clark and Dochez report experimental work on monkeys, which proved the possibility of poliomyelitis virus passing through the stomach, resisting the digestive juices and remaining capable of reproducing the disease when recovered from the intestine and injected intracerebrally into another monkey.

As has been shown by these and a large number of other investigators, the virus of the disease can be recovered from the throat and nose, and it seems to be altogether likely that the presence of the virus in the stomach and intestines is due to swallowing the virus with the saliva.

It is self-evident that preventive measures should not only include sterilization of the nose and throat secretions, but thorough disinfection of the bowel movements as well. Health officers should see that this is done in every case.

The Iowan's Disgust.

On the line of the Missouri Pacific railway, just over in Oklahoma from Coffeyville, Kan., is a small place called Nowata. A state law in Kansas prohibits the carrying, by the railroads, of public drinking cups on trains. Not long ago a farmer from Iowa, near Coffeyville, wanted a drink of water. He did not know about the law. Going to the water cooler he began looking for the cup. When he failed to find it he sought the chair-car porter, a negro, and asked for it.

"Law doan' 'low no public cups on dese beah trains," said the porter.

The Iowan was deeply disgusted. He returned to his seat and grumbled until the train crossed the Oklahoma-Kansas line. Shortly after that the negro porter stuck his head in the door.

"Nowata!" he called.

That increased the Iowan's disgust. "In Kansas they don't have no drinkin' cups," he said to the man in the next seat, "an' in Oklahoma no water on trains. Danged if I don't stay in Ioway for the rest of my life, if I ever git back there without dryin' up of thirst."—*Denver Times*.

A Confidential Letter.

Through the courtesy of *Life* we quote the following letter:

HOUSE-FLY & CO.,

General Dealers in Typhoid Fever, Diphtheria, and Other Infectious Diseases. Sicknes and Death from Our Infections Warranted to be Higher than that of Any Other Firm in the Same Line of Business.

CARELESS TOWN, E. W., June 7, 1911.

Dear Sir or Madam—This is to inform you that we will be at your screen door earlier than usual this summer, with a choice line of summer infections, including Typhoid Fever, Diphtheria, etc. Special inducements for babies are offered in a new line of bacteria, insuring long illness and slow death.

We desire to call particular attention to an insidious variety of Bovine Tubercle Bacillus, which we are carrying to your milk supply. This Tubercle Bacillus is warranted to produce large tuberculous glands in your children and slow tuberculosis of the bowels, which we guarantee to be fatal in 20 per cent of the cases infected.

Our firm finds it unnecessary to call the attention of our patrons to Results. We GET them. Look at your cemeteries filled with the patrons of the line of products we carry. Visit your hospitals; the beds are occupied by those we infected. Not a city in the country has less—many more—than 10 per cent of its people sick. No other firm can point to so many cases of typhoid or so much illness among babies as we can, as a result of our methods.

Can't you see the advantage we have over hog cholera or pip? Walk through your orphan asylums; who made the fatherless and motherless children? WE DID.

Every July, August and September we increase the sickness and death of our babies several hundred per cent; we cause babies to die by the thousands. We laugh at our enemies who dole out insect powder, which only gives us a good drunk; and fly poison, which doesn't materially interfere with our business. No one can hurt us until the vault, manure heap, open garbage pail and dirty yard are wiped out. Of course, that won't be done right away.

Yours for dirt, disease and death,

HOUSE-FLY & Co.

To Madam Careless Housewife; Mr. Indifferent Citizen.

"DOC."

I doubt not each of you knows some chap
You would like to wallop, and whack and slap,
And tumble over, and kick, and beat,
And trample down in the mud of the street;
He's found from Houston to Manitowoc—
The dubber who dubs the Doctor "Doc."

Out there in the country, from day to day
As you jog along on the king's highway,
He calls as soon as you come in sight,
And asks with an air of supreme delight,
As glad and gay as a cuckoo clock—
"Which way be you goin' this mornin', Doc?"

In town and city this impious imp
Goes up and down with a last year's limp,
With arms akimbo, on hunchback hips,
With a bone-yard yawning between his lips,
And head as soft as a basswood block,
And grins and greets you with "Howdy, Doc!"

If you step out of your office door
To buy a book at a near-by store,
Or go to the druggist's to pay your bill
Or order a box of Sis Pinkham's pills,
This old gong-beater gives you a shock
With his loud "Hello, what's your hurry, Doc?"

At the livery barn, where you keep your horse,
There you'll encounter this living corse,
With a hang-dog air and a whipped-dog whine;
And whether the weather be foul or fine,
He will ask in a voice like a broken crock,
"How do you like this weather, Doc?"

When you go to church or to Sunday school,
You stumble onto this self same fool,
Whose only joy is in asking you
The silly question that all fools do,
The question that all of them keep in stock,
"How did you like the sermon, Doc?"

And some fine evening, or splendid morn,
When you are called, and a child is born,
You can't get out of the cottage gate,
Till you hear this chump with an empty pate,
Ask, in the pride of the barnyard cock,
"Is it a boy or a baby, Doc?"

When a patient dies, and is laid away,
To moulder back into primal clay,
You're scarcely out of the chapel door
Till you hear the voice of this brutal bore,
Saying, "It must be an awful shock!
How did you come to lose him, Doc?"

And so it will go till the end is reached,
And our funeral sermons have been preached;
We still shall meet in our daily round
This butting-in, blathering, brainless hound,
This gibbering, Chinese Jabberwock,
The dubber who dubs the Doctor "Doc."

—Henry W. Roby, M. D., Topeka, Kan.

The Secret of Health.

Don't worry.

Don't hurry. Too swift arrives as tardy as too slow.

Simplify! Simplify! Simplify!

Be regular. Be systematic. "Order is heaven's first law."

Don't overeat. Don't starve. "Let your moderation be known to all men."

Sleep and rest abundantly. Sleep is "nature's sweet restorer."

Court the fresh air day and night. Learn how to breathe. The "breath of life" is in the air.

Leave a margin of nervous energy for tomorrow. Don't spend faster than you make.

Be cheerful. "A light heart lives long."

Work like a man, but don't be worked to death.

Avoid passion and excitement. A moment's anger may cause lifelong misery.

"Seek peace and pursue it."

Think only healthful thoughts. "As a man thinketh in his heart so is he." Forget yourself in living for others.

Look for the good in everybody and everything. You will find what you habitually look for.

So live in body, soul and spirit that you will radiate health. Health is contagious, as well as disease.

Don't carry the whole earth on your shoulders, still less the universe. Trust the Eternal.

Finally—learn to wait in the "patience of hope."

"God is in His world."

"If ye know these things, happy are ye if ye do them."
—Exchange.

BULLETIN

OF THE

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S. J. CRUMBINE, M. D., Secretary and Editor.

W. J. V. DEACON, Registrar.

No. 9.

SEPTEMBER, 1912.

VOL. VIII.

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Be alive.—*Estey.*

Dare to do it different.

Most colds are infectious.

Look well to your stock of diphtheria antitoxin.

It takes courage to travel at right angle to the rut.

The imperfect digestion of an imperfect food makes for imperfect nutrition.

The use for social betterment is the modern and up-to-date treatment of vital statistics.

The eight-hour "shift" is the best: eight hours for work, eight hours for rest and recreation, and eight hours for sleep.

Side by side with the conservation of resources, I would place the preservation, protection and perfection of mankind.—*Governor Dix.*

"Ill fares the land, to hastening ills a prey.

Where wealth accumulates and men decay."

VITAL STATISTICS

Reported to the Kansas State Board of Health for August, 1912.

CONTAGIOUS AND INFECTIOUS DISEASES.

COUNTIES.	Tuber- culosis.		Typhoid fever.		Diph- theria.		Scarlet fever.		Small- pox.		Measles.		July.	
	Cases...	Deaths...	Cases...	Deaths...	Cases...	Deaths...	Cases...	Deaths...	Cases...	Deaths...	Cases...	Deaths...	Births...	Deaths...
The State.. totals.....	281	12	11	0	27	0	15	0	10	0	2,695	1,421		
August, 1911.....	267	32	67	8	88	1	87	6	156	8				
Allen.....	5	0	1	0	2	0	0	0	0	0	44	20		
Anderson.....	0	0	4	0	0	0	0	0	0	0	18	19		
Atchison.....	0	0	0	0	0	0	0	0	0	0	15	7		
Barber.....	0	0	0	0	0	0	0	0	0	0	18	6		
Barton.....	0	0	0	0	2	0	0	0	0	0	86	15		
Bourbon.....	1	0	0	0	0	0	0	0	0	0	19	11		
Brown.....	0	0	0	0	0	0	0	0	0	0	34	18		
Butler.....	0	0	9	0	0	0	0	0	0	0	42	14		
Chase.....	3	0	0	0	0	0	0	0	0	0	9	2		
Chautauqua.....	2	0	0	0	0	0	0	0	0	0	23	5		
Cherokee.....	3	2	0	0	0	0	0	0	0	0	75	41		
Cheyenne.....	4	0	0	0	0	0	0	0	0	0	8	1		
Clark.....	0	0	0	0	0	0	0	0	0	0	4	3		
Clay.....	6	0	1	0	1	0	0	0	0	0	26	14		
Cloud.....	0	0	0	0	0	0	0	0	0	0	28	14		
Coffey.....	8	0	0	0	0	0	1	0	0	0	17	17		
Comanche.....	3	0	0	0	0	0	0	0	0	0	9	9		
Cowley.....	1	0	0	0	0	0	0	0	0	0	36	27		
Crawford.....	0	0	0	0	0	0	15	0	0	0	64	31		
Decatur.....	1	0	0	0	0	0	0	0	0	0	18	3		
Dickinson.....	2	0	0	0	0	0	0	0	0	0	49	11		
Doniphan.....	0	0	0	0	0	0	0	0	0	0	25	12		
Douglas.....	1	0	0	0	0	0	0	0	0	0	15	8		
Edwards.....	0	0	0	0	0	0	0	0	0	0	11	5		
Elk.....	3	0	0	0	0	0	0	0	0	0	24	4		
Ellis.....	8	0	0	0	0	0	0	0	0	0	31	15		
Ellsworth.....	1	0	0	0	0	0	0	0	0	0	12	14		
Finney.....	1	0	0	0	0	0	0	0	0	0	11	1		
Ford.....	3	1	0	0	3	0	0	0	0	0	28	16		
Franklin.....	1	0	0	0	0	0	0	0	0	0	30	19		
Geary.....	0	0	0	0	0	0	1	0	0	0	18	4		
Gove.....	5	0	0	0	1	0	0	0	0	0	4	1		
Graham.....	0	0	0	0	0	0	0	0	0	0	6	4		
Grant.....	0	0	0	0	0	0	0	0	0	0	0	0		
Gray.....	0	0	0	0	0	0	0	0	0	0	8	1		
Greeley.....	0	0	0	0	0	0	0	0	0	0	5	0		
Greenwood.....	3	0	0	0	0	0	0	0	0	0	30	7		
Hamilton.....	1	0	0	0	0	0	0	0	0	0	6	2		
Harper.....	1	0	0	0	0	0	0	0	0	0	17	9		
Harvey.....	2	0	3	0	1	0	0	0	0	0	33	11		
Haskell.....	0	0	0	0	0	0	0	0	0	0	1	0		
Hodgeman.....	2	1	0	0	0	0	0	0	0	0	3	1		
Jackson.....	2	0	0	0	0	0	0	0	0	0	21	7		
Jefferson.....	3	0	1	0	4	0	0	0	7	0	48	20		
Jewell.....	0	0	0	0	2	0	0	0	0	0	21	17		
Johnson.....	0	0	0	0	0	0	0	0	0	0	28	13		
Kearny.....	5	0	0	0	0	0	0	0	0	0	2	3		
Kingman.....	0	0	0	0	0	0	0	0	0	0	15	8		
Kiowa.....	0	0	0	0	0	0	0	0	0	0	13	9		
Labette.....	3	0	0	0	0	0	0	0	1	0	34	17		
Lane.....	0	0	0	0	0	0	0	0	0	0	3	0		
Leavenworth.....	1	0	1	0	0	0	0	0	0	0	21	12		
Lincoln.....	0	0	0	0	0	0	0	0	0	0	19	7		
Linn.....	1	1	0	0	0	0	0	0	0	0	21	14		
Logan.....	0	0	0	0	0	0	0	0	0	0	6	3		
Lyon.....	2	0	0	0	0	0	0	0	0	0	33	20		
Marion.....	4	0	1	0	0	0	0	0	0	0	39	10		
Marshall.....	3	0	0	0	0	0	0	0	0	0	31	16		
McPherson.....	3	0	1	0	0	0	0	0	0	0	31	15		
Meade.....	5	0	0	0	0	0	0	0	0	0	6	2		

CONTAGIOUS AND INFECTIOUS DISEASES—Continued.

COUNTIES.	Tuber- culosis.		Typhoid fever.		Diph- theria.		Scarlet fever.		Small- pox.		Measles.		July.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Births.	Deaths.
Miami			0	0	0	0	0	0	0	0	0	0	24	35
Mitchell			9	0	2	0	0	0	0	0	2	0	12	6
Montgomery			5	0	0	0	0	0	0	0	0	0	33	33
Morris			1	0	1	0	0	0	0	0	0	0	17	3
Morton			0	0	0	0	0	0	0	0	0	0	1	0
Nemaha			2	0	0	0	0	0	0	0	0	0	37	8
Neosho			5	0	0	0	0	0	0	0	0	0	51	26
Ness			3	1	0	0	0	0	0	0	0	0	10	2
Norton			1	1	0	0	0	0	0	0	0	0	9	5
Osage			9	0	0	0	0	0	0	0	0	0	26	15
Osborne			12	0	0	0	0	0	0	0	0	0	23	6
Ottawa			2	1	0	0	1	0	0	0	0	0	9	12
Pawnee			10	0	0	0	5	0	0	0	0	0	17	4
Phillips			10	1	0	0	0	0	0	0	0	0	10	6
Pottawatomie			0	0	0	0	0	0	0	0	0	0	22	6
Pratt			1	0	0	0	0	0	0	0	0	0	23	8
Rawlins			0	0	0	0	0	0	0	0	5	0	16	2
Reno			1	0	0	0	4	0	0	0	0	0	50	12
Republic			2	0	0	0	0	0	0	0	0	0	13	5
Rice			0	0	0	0	0	0	0	0	0	0	27	10
Riley			2	0	0	0	0	0	0	0	0	0	23	14
Rooks			2	0	0	0	0	0	0	0	0	0	20	3
Rush			0	0	0	0	0	0	0	0	0	0	6	1
*Russell													21	4
Saline			2	0	0	0	0	0	4	0	0	0	33	20
Scott			0	0	0	0	0	0	0	0	0	0	4	1
Sedgwick			7	0	0	0	0	0	5	0	0	0	25	12
Seward			0	0	0	0	0	0	0	0	0	0	14	2
Shawnee			0	0	0	0	0	0	0	0	0	0	13	12
Sheridan			0	0	0	0	0	0	0	0	0	0	8	4
Sherman			1	0	0	0	0	0	0	0	0	0	6	4
Smith			0	0	0	0	0	0	0	0	0	0	33	7
Stafford			0	0	0	0	0	0	0	0	0	0	24	4
Stanton			0	0	0	0	0	0	0	0	0	0	1	0
Stevens			0	0	0	0	0	0	0	0	0	0	1	2
Sumner			20	0	0	0	0	0	0	0	0	0	37	26
Thomas			0	2	0	0	0	0	0	0	0	0	1	3
Trego			1	0	0	0	0	0	0	0	0	0	11	3
Wabaunsee			0	0	0	0	0	0	0	0	0	0	22	6
Wallace			1	0	0	0	0	0	0	0	0	0	1	1
Washington			1	0	0	0	0	0	0	0	0	0	43	9
Wichita			7	0	0	0	0	0	5	0	0	0	1	0
Wilson			4	0	0	0	0	0	0	0	0	0	52	15
Woodson			1	0	0	0	0	0	0	0	0	0	22	12
Wyandotte			0	0	0	0	0	0	0	0	0	0	24	22
<i>Cities:</i>														
Atchison			0	0	0	0	0	0	0	0	0	0	15	12
Coffeyville			3	0	0	0	1	0	0	0	0	0	24	17
Fort Scott			3	0	0	0	0	0	0	0	0	0	21	13
Hutchinson			11	0	2	0	2	0	0	0	0	0	33	32
Independence			0	0	0	0	0	0	0	0	0	0	14	10
Kansas City			6	0	3	0	4	0	0	0	1	0	167	130
Lawrence			0	0	0	0	0	0	0	0	0	0	8	9
Leavenworth			1	0	0	0	1	0	0	0	0	0	36	30
Parsons			1	0	1	0	1	0	0	0	0	0	19	16
Pittsburg			3	1	1	0	1	0	0	0	1	0	25	17
Topeka			1	0	0	0	5	2	1	0	1	0	96	69
Wichita			27	5	1	0	0	0	0	0	0	0	74	60
Institutions														

* No report.

DEATHS AND BIRTHS IN KANSAS,

Month of July, 1912.

DEATHS.

Stillbirths not included.

Typhoid fever.....	36	Diseases of liver and adnexa.....	33
Smallpox.....	0	Peritonitis.....	15
Measles.....	2	Other diseases digestive system.....	49
Scarlet fever.....	0	Acute nephritis.....	6
Whooping cough.....	23	Bright's disease.....	82
Diphtheria.....	8	Other diseases genito-urinary system.....	14
Dysentery.....	19	The puerperal state.....	15
Tuberculosis, all forms.....	90	Diseases of the skin, etc.....	8
Cancer, all forms.....	98	Diseases of the bones, etc.....	2
Rheumatism, all forms.....	16	Malformations.....	22
Diabetes.....	18	Diseases of early infancy.....	106
Other general diseases.....	36	Old age.....	71
Meningitis.....	13	Suicides.....	19
Cerebral hemorrhage.....	64	Accidents.....	118
Paralysis.....	46	Homicides.....	9
Other diseases nervous system.....	42	Ill-defined diseases.....	27
Organic heart disease.....	103	Total deaths.....	1,457
Other diseases circulatory system.....	28	Less delayed reports.....	26
Broncho-pneumonia.....	12	Net for July.....	1,421
Pneumonia.....	13		
Other diseases respiratory system.....	21		
Diarrhea and enteritis (under 2 years).....	128		
Diarrhea and enteritis (2 years and over).....	32		
Appendicitis.....	24		

BIRTHS.

Males.....	1,379
Females.....	1,316
White, 2,647.	Colored, 48.
Total births, 2,695.	
Stillbirths, 30.	

AGES AT DATE OF DEATH.

Ages.	No.	SEX.	No.
-1.....	242	Males.....	833
1-2.....	100	Females.....	624
3-5.....	28		
6-10.....	29	COLOR.	
11-15.....	27	White.....	1,364
16-20.....	42	Chinese.....	0
21-25.....	52	Indian.....	2
26-30.....	50	Black.....	91
31-35.....	51		
36-40.....	47	NATIONALITY.	
41-45.....	53	Native.....	1,214
46-50.....	55	Foreign.....	202
51-60.....	123	Unknown.....	41
61-70.....	206		
71-80.....	281	SOCIAL CONDITION.	
81-90.....	104	Single.....	578
91-100.....	10	Married.....	587
100+.....	1	Widowed.....	254
Unknown.....	6	Divorced.....	10
Total.....	1,457	Unknown.....	28

WATER SURVEY NO. 13.

By E. H. S. BAILEY, Ph. D., Director, and C. C. YOUNG, M. S., Chemist.

Dr. S. J. Crumbine, Sec'y State Board of Health, Topeka, Kan.:

DEAR SIR—The following are the analyses of proposed city supplies made in this laboratory since January 1, 1912.

Yours truly,

C. C. YOUNG.

509. Argonia. *a* A bored well twenty-one feet deep; *b* water from Chickaskia river; *c* bored well. From a mineral standpoint any of these waters will be satisfactory for a city supply. *c* Shows evidence of pollution, as indicated by the high nitrates, but further than that appears to be satisfactory.

510. Baldwin. Sample taken from a small creek fed by numerous springs, which is to be dammed and used for city supply. This will make a very soft municipal supply, and, if properly filtered, should be satisfactory from a sanitary standpoint.

511. Bucklin. *a* From 120-foot tubular wells under the cement floor of the pump house. Are to be used for city supply, and are relatively soft and should make satisfactory supplies if taken care of.

512. Burlingame. *a* From Dragoon creek; *b* electric-light-plant well; *c* Buelher well. The Dragoon creek water could be used for a city supply if properly purified by sedimentation and filtration. The electric-light-plant well would be somewhat doubtful for a city supply on account of the very high nitrates, and these would tend to increase rather than decrease with time. *c* Would be unfit for use under any circumstances on account of the high mineral matter, principally calcium sulfate. A mineral analysis was made of *b* in order to determine its value as a boiler water. It was found that 1 pound of hydrated lime and 0.4 pound of soda ash would properly soften one thousand gallons of water. However, the high nitrates would tend to make the water corrosive.

513. Burr Oak. *a* Test well in White Rock creek bed; *b* well on city lot; *c* a second test well in creek bed, pumped two days before taking sample; *d* bored well two years old at a private residence. All of these waters are exceptionally hard, the principal constituent being calcium sulfate. *a* Is the best water of the four, being about one-third as hard as the other waters. The water from the test well *a* was very turbid, due to not properly pumping the supply before collecting the sample.

SANITARY ANALYSES OF PROPOSED CITY SUPPLIES.

(Parts per million.)

Number	City.	Dates, 1912.	Oxygen consumed	Nitrogen in free NH ₃	Nitrogen in alb. NH ₃	Nitrogen in NO ₂	Nitrogen in NO ₃	Iron	Chlorine	Sulphates SO ₄	Solids
509	Argonia: a S. J. Smith..... b S. J. Smith..... c S. J. Smith.....	4-22 4-22 4-22	None. 1,800 None.	0.002 0.004 None.	0.003 0.078 0.002	None. 0.001 None.	4,000 None. 3,000	0.700 1,000 None.	26.0 19.0 26.0	21.05 25.55 41.14	312.00 303.00 363.00
510	Baldwin: a Veatch.....	1-26	2,980	0.074	0.108	0.020	0.040	2,000	4.0	7.07	156.00
511	Bucklin: a C. J. Jennings b C. J. Jennings.....	7-2 7-2	None. None.	..... .....	..... .....	0.004 0.010	2,500 3,000	..... .....	15.0 15.0	Trace. Trace.	235.00 231.00
512	Burlingame: a Pringle..... b Pringle..... c Pringle.....	6-8 6-8 6-8	12,000 1,800 1,060	0.036 0.370 0.020	0.243 0.078 0.063	..... ..... .....	5,000 10,000 40,000	..... ..... .....	5.6 22.4 266.0	40.00 45.30 360.00	431.00 374.00 1,771.00
513	Burr Oak: a Hawley..... b Hawley..... c Hawley..... d Hawley.....	4-2 4-2 4-9 4-9	1,400 0,360 2,230 2,370	1.920 0.046 0.414 0.494	0.232 0.114 0.096 0.106	0.100 0.001 None. None.	None. 3,000 None. None.	..... ..... ..... .....	11.0 72.4 13.0 22.0	19.32 401.20 321.00 366.00	696.00 1,074.00 1,063.00 1,446.00
514	Channahon: a Wilkins..... b Wilkins.....	7-25 8-10	..... .....	0.022	0.056	None. None.	0,300 4,000	..... .....	31.0 11.0	131.00 125.50	565.00 467.00
515	Cleaver: a J. W. Wilham..... b J. S. Wilham..... c J. S. Wilham.....	5-23 5-23 5-23	None. None. None.	0.022 0.006 0.014	0.040 0.024 0.064	None. 0.001 None.	4,000 2,500 1,000	..... ..... .....	23.0 12.0 9.0	37.60 56.80 44.60	360.00 307.00 250.00
516	Cottonwood Falls: a Mat Graham..... b Mat Graham.....	5-3 1-29 2-2	1,180 None. 0.063	0.004 0.124 0.064	0.078 0.144 0.098	None. 0.010 None.	7,500 0,300 1,000	..... ..... .....	13.0 44.0 64.0	66.35 132.30 174.40	421.00 644.00 677.00
517	Englewood: a Mat Graham..... b Mat Graham.....	6-17 6-17	0.080 0.066	0.006	0.038	0.004	None.	0,500 40,000	59.6	19.80	571.00
518	Gypsum City: a J. H. Schmitter..... b J. H. Schmitter.....	4-25 4-25	1,370 0.660	1.300 0.900	0.264	0.040	None. 4,000	40,000 40,000	104.0 37.0	1,210.00 996.00	2,763.00 2,618.00
519	Gypsum City: c J. H. Schmitter.....	4-25	0.876	1.120	0.264	0.020	None.	40,000	137.0	1,270.00	2,896.00

No.	Curr.	Dates, 1912.	Oxygen consumed	Nitrogen in free NH ₃	Nitrogen in alb. NH ₃	Nitrogen in NO ₂	Nitrogen in NO ₃	Iron	Chlorine	Sulphates SO ₄	Solids
533	Wellington:										
	a Ton Veatch.	1-17	5.530	13.060	0.230	0.030	0.030	0.7	317.6	24.35	1072.00
	b Ton Veatch.	1-17	1.450	0.230	0.160	0.010	0.050	0.7	327.0	74.40	1154.00
	c M. H. Kirk.	1-27	1.200	0.150	0.200	0.020	0.100	0.7	272.0	73.00	725.00
	d M. H. Kirk.	1-27	2.300	0.140	0.330	0.030	0.100	2.0	254.9	53.97	696.00
	e M. H. Kirk.	1-27	3.250	0.070	0.190	0.030	0.150	0.3	34.0	114.00	536.00
	f M. H. Kirk.	2-2	None.	0.068	.....	None.	12.000	None.	96.0	21.06	235.00
	g M. H. Kirk.	2-2	None.	0.068	.....	None.	12.000	Trace.	13.0	11.70	226.00
	h M. H. Kirk.	2-2	4.769	0.250	.....	0.020	1.000	2.0	12.0	15.79	235.00
	i M. H. Kirk.	2-14	1.630	0.120	0.124	0.010	0.200	0.5	17.0	31.90	275.00
	j Ton Veatch.	2-26	6.620	None.	0.420	.....	2.000	7.0	46.6	37.60	739.00
	k Ton Veatch.	2-26	4.900	None.	0.198	.....	2.000	.....	15.8	55.42	380.00
	l M. H. Kirk.	3-6	2.700	0.126	0.108	0.002	None.	33.2	350.0	266.50	1257.00
	m M. H. Kirk.	5-9	1.470	15.000	0.480	None.	None.	70.0	603.0	42.00	1679.00
	n M. H. Kirk.	5-9	0.660	0.052	0.118	0.001	0.001	2.0	80.4	107.00	500.00
	o M. H. Kirk.	5-9	2.370	0.120	0.204	0.001	None.	6.4	183.0	61.60	635.00
	p M. H. Kirk.	6-2	1.860	.....	.....	None.	None.	2.5	181.0	240.00	573.06
	q M. H. Kirk.	6-2	1.060	.....	.....	None.	None.	1.0	198.2	131.50	833.00
	r M. H. Kirk.	6-2	0.870	.....	.....	None.	None.	1.0	215.4	132.00	863.00
	s M. H. Kirk.	6-2	3.770	.....	.....	0.040	0.400	1.0	314.4	.....	765.00
	t M. H. Kirk.	6-2	1.430	.....	.....	None.	None.	0.7	430.8	57.10	1049.00
	u M. H. Kirk.	6-2	1.350	.....	.....	None.	None.	0.7	507.2	57.50	1198.00
	v M. H. Kirk.	6-2	1.100	.....	.....	None.	None.	0.7	600.2	65.90	1465.00
	w M. H. Kirk.	6-6	2.860	.....	.....	None.	None.	2.0	134.0	56.30	535.00

1. Too high to read.
 2. Large amount.
 Leaders (.....) indicate "not determined."

514. Chapman. *a* New city well, 87 feet deep; location approved by state sanitary engineer. This is a relatively hard water, but is probably as good as can be expected in this locality. *b* Is a second well put down by the city within 20 feet of *a*, but only 65 feet deep. This water is different from *a* in that it is not so hard, but it contains more organic matter and shows a history of pollution.

515. Clearwater. *a* and *b* are driven wells 50 feet deep, near the Missouri Pacific Railway yards; *c* is a well used by the Missouri Pacific Railway. These waters are very similar in character, and all are relatively soft for this district, but their location was not satisfactory to the state sanitary engineer.

516. Cottonwood Falls. This is a test well. A water in the same neighborhood was finally adopted for a city supply.

517. Englewood. Two wells examined for Worley & Black. *a* Test well; *b* school well. This examination was made to satisfy the people of Englewood that the test well was as good water as the school well. It is practically the same kind of water.

518. Glen Elder. A test well sunk in the creek bottoms; samples sent in immediately after pumping the well only a short time. It was found that this well would not yield water in sufficient quantities for use of the city.

519. Gypsum City. *a* Bored well 40 feet deep, private supply; *b* test well 45 feet deep, in the bottoms near Gypsum creek; *c* from test well after pumping for several days. These waters are practically a saturated solution of calcium sulfate, and contain a large amount of iron, which would render them unfit for use as city supplies.

520. Herington. These waters were sent in by F. A. Davis and J. S. Harris, representing the Commercial Club. Herington has been trying for some years to get a satisfactory supply, and the Commercial Club is endeavoring to locate a soft water for the city. *a* Wendt spring; *b* Tims spring; *c* Spring Ranch spring; *d* Wills spring; *e* Kohl spring. Of these five springs the Spring Ranch spring is the best, being soft and located where there is absolutely no danger of its being contaminated. There is a good flow and sufficient water to supply the city. The Kohl spring and Wills spring have been thought of for city supplies, but are relatively hard and will not yield a sufficient quantity of water to supply the city. *f* Spring Ranch spring; *g* Harrison spring; *h* Lyons creek. This examination was made for comparison of the Harrison spring with the Spring Ranch spring. The analysis showed

the Spring Ranch spring, to be the better of the two. *i* Well east of town. This is practically a saturated solution of gypsum, and is unfit for use as a city supply.

521. Humboldt. A well in the Neosho river bottoms. At present Humboldt gets its supply from the Neosho river. This analysis was made to determine whether or not this well water could be used to help out the city supply in time of low water. It is a relatively hard water, but very much harder than the Neosho river.

522. Junction City. Sample received from C. K. Raber, Rocky Ford Milling Company. Taken from a spring seven miles from town, at the head of a ravine which drains southwest. This is a very soft water and would make a very satisfactory supply if there were large enough quantities of the water.

523. Lansing. Proposed supply for the State Penitentiary. *a* Missouri river below Leavenworth; *b* Nine Mile creek. Both of these waters are very seriously polluted and would be unfit for use as a supply for the Penitentiary, unless a filtration plant were installed, and even then it would require very careful operation to maintain a satisfactory supply.

524. Larned. These analyses were made to determine whether or not a satisfactory supply could be found for the State Hospital which is to be located at Larned. The water that will finally be used is *e*, and although the solids are relatively high, it is due to the presence of sodium chloride (salt). However, there is not enough to taste.

525. Little River. *a* Dunham well; *b* Burke well; *c* Dickerson well; *d* Keifer well; *e* test well; *f* R. H. Smith well. With the exception of *f*, all of these waters are too hard for a city supply; *f* would be a satisfactory supply if it were properly located. It is just about half as hard as any of the other waters.

526. Lyndon. *a* Test well; *b* Salt creek. Salt creek is very much softer than the test well, and with proper purification would make a satisfactory supply. I believe that the city of Lyndon has decided to put in a filtration plant and use Salt creek as their supply.

527. Moundridge. Old City well. The authorities wish to use this water to eke out their present city supply in dry weather. The matter was checked up to the state sanitary engineer and a copy of this analysis sent to him. There are no abnormal conditions shown from a chemical standpoint.

528. Oxford. Test well in the Arkansas bottoms. This is a

relatively hard water, but could be used for a city supply if located where there would be no opportunity for pollution.

529. Oberlin. These are waters from private wells, sent in for comparison with the city supply. *a* Is somewhat softer and *b* slightly more hard than the city supply. Both show considerable history of pollution, but there is no evidence of immediate unsanitary conditions. However, the city water is the best of the three from a sanitary standpoint.

530. Smith Center. This analysis was made to determine whether or not the water should be cut out of the filtration gallery on account of its iron content. It was decided that the city could use the water if some arrangements were made so that it could be cut out if the iron increased.

531. Tescott. *a* Miller well; *b* Nelson well; *c* Strait well. *a* and *b* contained considerable iron, but if provision were made for removing this they would be satisfactory city supplies.

532. Waldo. Both samples are from a test well taken at different times in the drill hole. Both waters show considerable suspended matter. The city was advised that these waters be not used on account of their hardness, if another supply could be found.

533. Wellington. *a* well in Ninescah bottoms at Belle Plaine; *b* Ninescah river; *c* Ninescah river; *d* Ninescah river at Zyba; *e* well at Zyba; *f* and *g* wells in Chikaskia river bottoms; *h* and *i* Chikaskia river; *j* well in Slate creek bottoms; *k* test well, not enough water. These samples were all sent in as prospects for new supply for the city of Wellington. This city is pretty hard pushed for a city water supply. As a result of this investigation the following samples of water were sent to the Santa Fe laboratory at Topeka and to this laboratory: *l* Arkansas river at Oxford; *m* driven well in Ninescah bottoms; *n* driven well in Arkansas bottoms; *o* Ninescah river at Belle Plaine. In the final report the Santa Fe laboratory concurred with this laboratory in saying that the water in the Arkansas bottoms was far superior as a source of supply to that taken from the Ninescah bottoms. This statement was questioned by interested parties in Wellington, who stated that the samples were not properly collected. New test wells were then put down and samples taken from these at different depths. *p* Well in Arkansas river bottoms at Oxford, water taken 10 feet below ground; *q* same well 15 feet below ground; *r* same well 20 feet below ground; *s* Arkansas river; *t* driven well in Ninescah bottoms, water taken 15 feet below ground; *u* same well 20.8 feet

below ground; *v* same well 25.8 feet below ground; *w* Ninescah river. It will be seen at a glance that the water from the well in the Arkansas bottoms is by no means as hard as the water from those in the Ninescah bottoms. This concluded the investigation to the satisfaction of the city authorities. The engineers recommended and the city authorities concurred that the water from the Arkansas river bottoms should be taken for the city supply.

Plain Speaking on Sanitary Matters.

As the education of the public progresses in sanitary matters, the tendency to criticize officials responsible for conditions that are not as they should be becomes more pronounced. This is a hopeful sign, and means, inevitably, improved conditions. As examples of plain speaking on these matters, two instances may be cited. The headline over an article in a daily paper published in a large western city reads: "One More Baby's Life Forfeited to the Game of Politics." The article contains an account of an epidemic of scarlet fever which was traced to a certain dairy. It specifically attributes the death of a five-year-old child to the milk from this dairy, and goes on to say: "The milk-inspection department, during the time that a milker at the farm was developing scarlet fever, was playing politics. The inspectors were out soliciting votes among such of the dairymen as lived within the city limits and had a vote May 21. On their shoulders is laid the blame for the infection spread through the city." The other instance also concerns the milk supply, this time in a large eastern city. The chief inspector of creameries of the State Board of Health made an inspection of creameries and dairies in the city and found only three out of the twenty-seven that were up to the standard. He stated to the local board of health that he had no doubt that the impure milk was the cause of the death of many infants, and that if the board did not take immediate action the state board would step in and force the local board to do its duty. With all the agitation and legislation concerning milk it is scarcely possible that milk producers and distributors do not know the rôle of impure milk in the production of disease and death in infants. A conscience so defective as to permit such conditions to exist in the face of that knowledge, says the *Journal of the American Medical Association*, requires drastic criticism and vigorous action to penetrate it and get it in a normal working condition. Fearless speaking by the newspapers and the public will surely improve the health situation.

The Public Health.

It was that progressive, practical, productive philosopher, Benjamin Franklin, who said "public health is public wealth." The truth of the saying is generally acknowledged. And how strange it is that a statesman, or, indeed, several statesmen, with true economic ideas are not continually with us advocating all reasonable methods for improving the public health. A careful reading of the messages of our governors to the general assembly succeeded in finding only two who had anything to say upon this greatest of all economic questions. These were the first message of Governor Mount (the second was silent) and the first message of Governor Hanly (the second was silent) and the first message of Governor Marshall. The second message of Governor Marshall is certain to emphatically sustain the public-health cause and to make valuable recommendations to the legislature and the people.

Disraeli said: "The care of the public health is the first duty of the statesman." And Gladstone said: "In the health of the people lies the strength of the nation." Only a short time ago the New York City Board of Trade passed unanimously a resolution as follows:

"Resolved. That health and protection of life are more precious to the people and more necessary to their happiness than even the extension of our commerce, the fostering of our agricultural interests, the solving of our financial problems, the cheapness or efficiency of our postal service, the improvement of our rivers and harbors, or the enlargement of our navy."

It will be noticed that all of these utterances are from practical men who have accomplished much, and not from physicians or hygienists. Of course, it is very encouraging to the last-named classes that their teachings and long-advocated principles have been finally grasped by certain strong men. But despite this fact, it probably will long remain a matter little understood or appreciated by those who are responsible for the welfare of states.—*Bulletin Indiana Board of Health.*

The Menace of Wood Alcohol.

The widespread discussion which followed the series of deaths in Berlin as a consequence of the drinking of liquors contaminated with wood alcohol has again attracted attention to its poisonous character. There has been considerable difference of opinion as to whether the poisonous effect of this substance is actually due to the alcohol itself or to some impurities, which are almost invariably present in all except the most refined products. There is a scarcity

of facts regarding the actual behavior of wood alcohol in the animal body, so that the underlying causes of its extremely poisonous character are by no means clearly understood.

With respect to ordinary grain alcohol, the component of our alcoholic beverages, the facts are better understood. Ordinary alcohol is, when taken in moderate quantities, rapidly burned up in the body. This fact has been demonstrated by numerous experiments. With wood alcohol, however, the case seems to be different, according to the recent investigations in the Institute for the Fermentation Industries at Berlin. It has been shown that when wood alcohol is administered to animals it may not be eliminated completely even at the end of two days. The repeated ingestion of considerable doses of wood alcohol may lead to a dangerous accumulation thereof in the body. This factor has heretofore not been duly appreciated. The subtle dangers associated with the use of wood alcohol deserve widespread notice because of the increasing danger of its unsuspected entrance as an adulterant of the cheaper grades of distilled liquors and certain medicinal products. The insatiable demand for cheap liquors among certain of the degraded classes, says the *Journal of the American Medical Association*, and the difficulty with which the admixture of the inexpensive wood alcohol is detected provide a constant temptation to the unscrupulous dealer and a menace to the health of certain classes. However objectionable adulteration may be on general principles, it becomes far worse when some subtle danger is harbored therein.

Comparative Tuberculosis Rates.

While the tuberculosis death rate is falling rapidly in every civilized country, due largely to vigorous campaigns against tuberculosis, recent figures given out by the International Congress on Tuberculosis at Rome show that from one-tenth to one-fourth of the total mortality of Europe is caused by this disease. The approximate number of deaths in each million population from tuberculosis in certain countries are indicated in the following table:

Russia	4,000	Italy	1,800
Austria-Hungary	3,500	Scotland	1,700
France	3,000	United States	1,600
Germany	2,200	England	1,400
Holland	1,900		

The United States death rate is for only a little more than one-half the population or for the registration area, and is not strictly comparable with the others.

The Pharaohs Had the Hookworm.

Mr. Walter H. Page, in the *World's Work* for September, says that the hookworm "has been preying on man perhaps for thousands of years. A papyrus written 3460 years ago contains a description of a disease in Egypt which many physicians declare is the hookworm disease; it describes it too accurately to be anything else. In recent times it was observed in Egypt first in 1833, but the first recorded treatment was made in 1887.

"Whether or not malaria was one of the chief causes of the downfall of Greece and Rome, it is very certain that hookworm disease has played a part in Asiatic history. The anemic condition of millions of people, century after century, has profoundly affected their economic life, their intellectual qualities, their social habits and ideals and their religion; of that there can be no doubt. The relation between the hookworm and the doctrine of Nirvana is too probable to be regarded as fanciful."

And, says Mr. Page, speaking of the regenerating effect of hookworm eradication upon the Southern schools, "how whimsical Fate is, that we should be mightily helped to the right kind of country schools in the United States by an intestinal parasite that poisoned the Pharaohs!"

Test for Bad Oysters.

The oyster being almost entirely composed of water, its density is but little more than that of water. The decomposition that sooner or later overtakes all fish, flesh, fowl and game products, and terminates their usefulness as food, is attended with an evolution of gas. A very small quantity of this gas is sufficient to overcome the difference of density between an oyster and fresh water and the former will float on the surface of the latter. This explains why the record is bare, or nearly so, of cases of ptomaine poisoning caused by the shucked oyster. The dealer sees the bad ones floating and throws them out. In the presence of the great numbers of victims of ptomaine poisoning caused by fish, flesh and fowl, this is a proud record. Incidentally it shows the mistake of dry refrigeration for the shucked oyster. Here is the way to get rid of the bad oysters: Drain off the liquor, place them in cool, fresh water, *quantum sufficit*, and stir gently to give every one that wants to float a chance to rise to the surface. After all have settled down reject the floaters.—*Baltimore Sun*.

“PLUCK wins. It always wins
 Though days be slow
And nights be dark 'twixt days that
 Come and go.
Still pluck will win. Its average is sure.
 He gains the prize who can the most endure,
Who faces issues, he who never shirks,
 Who waits and watches, and who always works.”

BULLETIN

OF THE

Kansas State Board of Health.

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A. J. CRUMBINE, M. D., Secretary and Editor.

W. J. V. DEACON, Registrar.

No. 10.

OCTOBER, 1912.

VOL. VIII.

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Think it over.

Kansas is sanitarily progressive.

Blood, like money, is useless unless it circulates.

If you can not work out doors, sleep out doors.

The only night air that is injurious is last night's air.

The white blood cells are the standing army of the interior.

Who has health has hope, and who has hope has everything.—
Arabian Proverb.

The first duty of a statesman is to protect the public health.—
Gladstone.

Read the "Echoes from the International Congress on Hygiene and Demography."

A wholesome and effective public water supply is a city's most valuable asset.

If anything regenerates and preserves the world, it is preventive medicine.— *Vaughn.*

Poliomyelitis may be transmitted by the bite of an infected stable fly, which is an additional reason for the antily campaign.

VITAL STATISTICS

Reported to the Kansas State Board of Health for September 1912.

CONTAGIOUS AND INFECTIOUS DISEASES.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		August.		August.	
	Cases...	Deaths...	Cases...	Deaths...	Cases...	Deaths...	Cases...	Deaths...	Tuber- culosis.	Cancer.	Births...	Deaths...
									Deaths...	Deaths...		
The State.. totals.....	237	16	57	2	80	0	11	2	87	98	8,458	1,376
September, 1911.....	331	17	76	8	45	1	25	0	.....	.....	.....	.....
Allen	1	0	0	0	1	0	0	0	0	1	43	19
Anderson	0	0	0	0	0	0	0	0	0	0	29	12
Atchison	0	0	0	0	0	0	0	0	0	1	18	5
Barber	0	0	0	0	0	0	0	0	0	1	21	4
Barton	1	0	0	0	4	0	0	0	0	1	60	14
Bourbon	3	0	0	0	1	0	0	0	0	1	26	8
Brown	2	0	1	0	0	0	0	0	1	1	53	23
Butler	3	0	0	0	0	0	0	0	2	1	45	16
Chase	5	0	0	0	0	0	0	0	1	0	15	8
Chautauqua	5	0	0	0	2	0	0	0	0	2	26	11
Cherokee	2	2	0	0	0	0	0	0	2	1	73	34
Cheyenne	3	0	0	0	0	0	0	0	0	0	10	5
Clark	0	0	0	0	0	0	0	0	0	0	10	2
Clay	3	0	0	0	1	0	0	0	0	0	26	7
Cloud	0	0	0	0	0	0	0	0	0	2	50	14
Coffey	4	0	0	0	0	0	0	0	1	2	24	10
Comanche	1	0	0	0	0	0	0	0	0	0	20	6
Cowley	1	0	0	0	1	0	0	0	2	3	50	23
Crawford	1	0	1	0	0	0	0	0	3	0	61	36
Decatur	0	0	0	0	0	0	0	0	0	2	17	6
Dickinson	2	0	1	0	0	0	0	0	1	4	41	19
Doniphan	0	0	2	0	0	0	0	0	1	2	37	9
Douglas	0	0	0	0	1	0	0	0	2	0	18	6
Edwards	0	0	4	0	0	0	0	0	0	1	15	10
Ellis	0	0	1	0	0	0	0	0	1	1	42	11
Ellsworth	3	0	0	0	0	0	0	0	0	0	3	5
Finnely	0	0	0	0	0	0	0	0	1	0	25	5
Ford	4	0	0	0	2	0	0	0	1	0	44	23
Franklin	0	0	10	0	0	0	0	0	1	1	44	26
Gary	0	0	0	0	0	0	6	1	2	3	26	10
Gove	2	0	0	0	0	0	0	0	0	0	11	2
Graham	3	0	0	0	0	0	0	0	0	0	15	3
Grant	0	0	0	0	0	0	0	0	0	0	1	3
Gray	2	0	0	0	0	0	0	0	0	1	7	4
Greeley	0	0	0	0	0	0	0	0	0	0	2	1
Greenwood	9	0	0	0	0	0	0	0	0	0	34	7
Hamilton	2	0	0	0	0	0	0	0	0	0	7	6
Harper	3	0	0	0	0	0	0	0	0	2	50	9
Harvey	0	0	0	0	0	0	0	0	0	0	42	20
Haskell	1	0	0	0	0	0	0	0	0	0	1	0
Hodgeman	0	0	0	0	0	0	0	0	0	0	1	3
Jackson	2	0	0	0	1	0	0	0	0	2	27	16
Jefferson	1	0	0	0	2	0	0	0	1	1	14	12
Jewell	5	0	0	0	0	0	0	0	0	2	32	10
Johnson	0	0	0	0	0	0	0	0	1	2	34	15
Kearny	4	0	0	0	0	0	0	0	0	0	11	1
Kingman	0	0	0	0	0	0	0	0	2	0	21	8
Kiowa	0	0	0	0	0	0	0	0	0	1	22	4
Labette	4	0	3	0	4	0	0	0	0	2	36	12
Lane	2	0	0	0	0	0	0	0	0	0	5	1
Leavenworth	1	0	1	0	1	0	0	0	2	2	27	17
Lincoln	3	1	0	0	3	0	0	0	0	1	31	7
Linn	2	0	0	0	0	0	0	0	0	0	30	15
Logan	2	0	0	0	0	0	0	0	0	1	1	2
Lyon	3	0	1	0	3	0	0	0	1	1	51	22
Marion	5	0	0	0	0	0	0	0	2	0	71	15
Marshall	7	0	0	0	0	0	0	0	1	0	60	11
McPherson	3	0	0	0	0	0	0	0	0	0	53	13
Meade	1	0	0	0	0	0	0	0	0	0	7	13

CONTAGIOUS AND INFECTIOUS DISEASES—Concluded.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		August.		August.	
									Tuber-	Cancer.	Births.	Deaths.
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	culosis.	Deaths.		
Miami.....	0	0	0	0	0	0	0	0	4	0	31	18
Mitchell.....	4	0	8	2	0	0	0	0	0	0	37	9
Montgomery.....	2	0	0	0	3	0	0	0	0	0	41	20
Morris.....	0	0	0	0	0	0	0	0	1	1	38	12
Morton.....	0	0	0	0	0	0	0	0	0	0	0	0
Nemaha.....	0	0	0	0	0	0	0	0	1	1	59	9
Neosho.....	0	0	0	0	0	0	0	0	2	2	45	21
Ness.....	0	0	0	0	0	0	0	0	0	0	11	2
Norton.....	0	0	0	0	0	0	0	0	1	1	15	6
Osage.....	0	0	0	0	0	0	0	0	1	1	44	9
Osborne.....	0	0	0	0	0	0	0	0	1	1	13	5
Ottawa.....	0	0	0	0	2	0	0	0	1	0	25	4
Pawnee.....	1	0	0	0	4	0	0	0	0	0	26	6
Phillips.....	0	0	0	0	0	0	0	0	2	1	43	6
Pottawatomie.....	2	0	0	0	0	0	0	0	0	1	48	6
Pratt.....	8	1	0	0	0	0	0	0	0	1	36	7
Rawlins.....	0	0	0	0	0	0	0	0	0	0	10	5
Reno.....	1	1	0	0	0	0	0	0	2	1	28	9
Republic.....	4	0	0	0	0	0	0	0	0	0	37	3
Rice.....	0	0	0	0	0	0	0	0	0	0	32	9
Riley.....	2	0	0	0	0	0	0	0	1	1	31	16
Rooks.....	0	0	0	0	0	0	0	0	1	0	19	7
Rush.....	4	2	0	0	0	0	0	0	0	0	20	4
Russell.....	0	0	2	0	0	0	1	0	0	0	22	5
Saline.....	1	0	0	0	1	0	2	0	2	1	50	17
Scott.....	0	0	0	0	0	0	0	0	1	0	1	4
Sedgwick.....	0	0	0	0	1	0	0	0	0	0	33	6
Seward.....	1	0	0	0	0	0	0	0	0	0	6	2
Shawnee.....	0	0	0	0	3	0	0	0	2	0	26	12
Sheridan.....	0	0	0	0	0	0	0	0	1	0	11	3
Sherman.....	0	0	0	0	0	0	0	0	1	0	11	2
Smith.....	14	1	0	0	0	0	0	0	1	0	22	10
Stafford.....	0	0	0	0	0	0	0	0	0	0	50	11
Stanton.....	0	0	0	0	0	0	0	0	0	0	1	0
Stevens.....	0	0	0	0	0	0	0	0	0	0	8	2
Sumner.....	5	0	0	0	0	0	0	0	1	1	59	20
Thomas.....	1	0	0	0	0	0	0	0	0	1	9	3
Trego.....	0	0	0	0	0	0	0	0	0	0	9	5
Wabaunsee.....	1	1	0	0	3	0	0	0	0	0	21	9
Wallace.....	0	0	0	0	0	0	0	0	0	0	6	0
Washington.....	3	0	3	0	0	0	0	0	1	1	56	9
Wichita.....	13	3	1	0	2	0	0	0	0	0	2	0
Wilson.....	2	0	1	0	15	0	0	0	1	0	42	16
Woodson.....	4	0	0	0	0	0	0	0	1	1	12	8
Wyandotte.....	0	0	0	0	0	0	0	0	2	1	36	8
<i>Cities:</i>												
Atchison.....	0	0	0	0	0	0	0	0	2	1	15	12
Coffeyville.....	3	0	0	0	0	0	0	0	1	1	27	22
Fort Scott.....	4	1	0	0	3	0	0	0	0	1	23	20
Hutchinson.....	9	1	0	0	0	0	0	0	2	0	36	28
Independence.....	0	0	0	0	0	0	0	0	2	1	24	17
Kansas City.....	8	0	3	0	0	0	0	0	10	9	128	100
Lawrence.....	0	0	0	0	0	0	0	0	2	1	20	14
Leavenworth.....	3	0	0	0	8	0	0	0	2	2	27	27
Parsons.....	0	0	11	0	6	0	0	0	0	3	31	15
Pittsburg.....	14	1	1	0	0	0	0	0	0	1	39	12
Topeka.....	1	0	2	0	2	0	2	1	4	2	88	73
Wichita.....	1	1	0	0	0	0	0	0	1	2	102	43

* No report.

The forward movement in the establishment of municipal water supplies and sewerage systems for the smaller cities of Kansas continues.

DEATHS AND BIRTHS IN KANSAS,

Month of August, 1912.

DEATHS.

Stillbirths not included.

Typhoid fever.....	51	Diseases of liver and adnexa.....	13
Smallpox.....	0	Peritonitis.....	10
Measles.....	0	Other diseases digestive system.....	38
Scarlet fever.....	2	Acute nephritis.....	6
Whooping cough.....	19	Bright's disease.....	77
Diphtheria.....	4	Other diseases genito-urinary system.....	21
Dysentery.....	19	The puerperal state.....	19
Tuberculosis, all forms.....	87	Diseases of the skin, etc.....	6
Cancer, all forms.....	93	Diseases of the bones, etc.....	2
Rheumatism, all forms.....	11	Malformations.....	21
Diabetes.....	10	Diseases of early infancy.....	114
Other general diseases.....	83	Old age.....	58
Meningitis.....	8	Suicides.....	12
Cerebral hemorrhage.....	67	Accidents.....	91
Paralysis.....	36	Homicides.....	7
Other diseases nervous system.....	47	Ill-defined diseases.....	14
Organic heart disease.....	91	Total deaths.....	1,398
Other diseases circulatory system.....	45	Less delayed reports.....	12
Broncho-pneumonia.....	20	Net for August.....	1,376
Pneumonia.....	14		
Other diseases respiratory system.....	16		
Diarrhea and enteritis (under 2 years).....	157		
Diarrhea and enteritis (2 years and over),	39		
Appendicitis.....	18		

BIRTHS.

Males.....	1,716
Females.....	1,742
White, 3,381.	Colored, 77.
Total births, 3,458.	
Stillbirths, 83.	

AGES AT DATE OF DEATH.

Ages.	No.	SEX.	No.
-1.....	286	Males.....	792
1-2.....	100	Females.....	596
3-5.....	23		
6-10.....	25	COLOR.	
11-15.....	31	White.....	1,290
16-20.....	35	Chinese.....	0
21-25.....	51	Indian.....	1
26-30.....	48	Black.....	88
31-35.....	52		
36-40.....	48	NATIONALITY.	
41-45.....	46	Native.....	1,172
46-50.....	51	Foreign.....	181
51-60.....	122	Unknown.....	35
61-70.....	197		
71-80.....	188	SOCIAL CONDITION.	
81-90.....	89	Single.....	584
91-100.....	17	Married.....	543
100-+.....	0	Widowed.....	237
Unknown.....	4	Divorced.....	9
Total.....	1,398	Unknown.....	15
		Total.....	1,388

A Remarkable Typhoid Carrier.

Health officers and sanitarians are becoming more and more convinced that the role of the chronic typhoid carrier plays a large part in the propagation and dissemination of typhoid fever. The literature of the past several years has recounted many instances of mysterious outbreaks of typhoid fever which hitherto have been impossible to account for in the absence of a common water or milk supply. Leddingham, of England, has given an important contribution to the current knowledge on this subject, which has been most ably reviewed by Grimm, of the Public Health Service, in Bulletin No. 58. To Koch is given the credit of pointing out the necessity of supervision of convalescents and so-called walking or abortive cases. It was upon his recommendation that stations were established in different portions of the German empire for the purpose of making a study of typhoid fever; these stations were increased to eleven, each station having a laboratory, a director and several assistants. Much valuable work was done therein, and rich contributions to the subject of typhoid carriers were accumulated.

Carriers are classified by Leddingham into three groups: The first group, primary carriers, those carriers in whom infection has not led to symptoms, including persons in the incubation stage of the disease; the second group, secondary carriers, convalescents from typhoid fever who continue to eliminate bacilli for a period longer than ten weeks after the onset of the attack; the third group, tertiary carriers who continually eliminate bacilli after the primary attack.

It has been found by many observers that from 5 to 15 per cent of typhoid cases continue to eliminate bacilli during convalescence and that as high as 3 per cent develop into chronic or tertiary carriers. Semple and Krieg, working in India, found that 11.6 per cent of convalescents from typhoid fever eliminate bacilli for a period longer than six weeks. This is probably the highest percentage recorded.

It can be readily seen, therefore, that the problem of the suppression of typhoid fever is one which is extremely difficult and which, under the present public health methods of dealing with these cases, can not be controlled.

It has been a matter of observation, also, that a definite diagnosis of gall stones was made in 13.6 per cent of a large number of

chronic cases, and that the attack of typhoid fever in these cases ranged from four to thirty years previously. It is such a case as this that we desire to record, because of the length of time the person continued as a chronic carrier and the large number of cases of typhoid fever developing therefrom before this carrier was discovered.

In April, 1911, at a regular meeting of the Missionary Society in the country near the city of Peabody, Kan., a lunch was served at the home of Mrs. D., at which foods gathered from the neighborhood composed the lunch. Among other things served was pressed-chicken sandwiches, made by Mrs. D., which had been cooked two days before, the meat being stripped from the bones by the hands of Mrs. D. and carefully put in porcelain jars in a cool place. Twenty-six people were present, all of them eating of these pressed chicken sandwiches excepting one, a child, and of those eating the sandwiches all were taken violently sick in from 24 to 72 hours excepting one person. The first symptoms were those characteristic of acute food poisoning, such as watery diarrhoea, nausea and vomiting, cramping, pain in the bowels, aching pain over the body with pronounced soreness around the spine, more or less stiffness of the joints, with difficulty in turning over in bed, great prostration, but with mind clear and remaining clear throughout the disease, severe chills with high fever, tympanitis in some cases, with pronounced bronchial symptoms in several of the more severe cases. Later on, after the subsidence of the acute symptoms characteristic of acute food poisoning, a clinical picture of typhoid fever supervened, excepting, as was afterwards determined, in those cases which had previously had typhoid fever.

Naturally, a diagnosis was first made of acute meat poisoning, which was undoubtedly correct, although later developments showed conclusively that a mixed infection was present as the typhoid conditions developed.

Subsequently twelve secondary cases of typhoid fever developed in the families of those affected, having the clinical appearance of typhoid from the beginning. It was then thought that the water in the well was at fault, and a presumptive test of the water seemed to indicate the presence of sewage pollution.

It was not until several weeks afterward that the writer, attending the American Medical Association meeting at Los Angeles, met Dr. J. O. Furst, a former resident of Peabody, who had heard of the epidemic, and knowing that Mrs. D. had a biliary fistula, suspected that the infection came from her, and expressed his

opinion to that effect. Immediately Dr. E. H. Johnson, of Peabody, was informed of this opinion, with request that he make an investigation as to the probability of this being the fact, whereupon the following history was obtained:

Nine years previously Mrs. D. had typhoid fever, from which she apparently made a good recovery, but about six months afterwards she developed an attack of biliary colic, and was brought to the Axtell Hospital at Newton, Kan., where an operation was made by Dr. J. A. Axtell, and sixty-nine gall stones removed. She apparently recovered, with the establishment of a permanent biliary fistula, which continued to discharge from one to one and one-half pints of muco-bile daily. At times this secretion would become scant, when she would immediately feel tired and would have considerable aching feelings of muscles and joints, with loss of appetite and a rise in temperature. This would continue until the discharge from the fistula would start up more profusely, when she would seem to find relief, and would be able to be about the house and do her work again, dressing the wound herself.

About four months after returning to her home, her youngest boy had an attack of typhoid fever. It is not known that her husband ever had typhoid, although at one time, when others were sick, he showed some symptoms of fever, but never took to his bed. It is altogether probable that he had a mild attack of the disease.

Later on, Mrs. D.'s closest neighbor, Mrs. R., who often visited at her home and who ate there, was taken sick with typhoid fever from which she died. Afterwards, Mr. M., living about half a mile away, had a severe attack of typhoid fever. About the same time, Mr. T. and Mr. R., two neighbor boys who were often at the D. home, sometimes eating there and often staying all night, both took down with typhoid. Mrs. H., a widow, with her three daughters, living one-fourth of a mile away, who often visited and ate at the D. home, all had severe attacks of typhoid fever, one after another.

Immediately previous to this explosive typhoid epidemic in 1911, Mrs. D. had one of her attacks of aching and feeling badly, due to a scant discharge, but just preceding the missionary luncheon, the discharge was quite free from her side, which she dressed herself as usual.

Samples of the bile secretions were sent by Doctor Johnson to this Department and to several other laboratories in the country, including the Hygienic Laboratory of the Public Health Service at Washington, and a definite determination made of the *bacillus*

typhosus, and the fact thereby established that Mrs. D. was a chronic typhoid carrier, although having had the disease nine years previously. When these facts became known, Mrs. D. again went to the Axtell Hospital, at Newton, where an operation was performed for closing the fistula, which was quite successful; subsequent examinations of the urine and stools have been made with a negative result, and thus the carrier seems to have been entirely cured.

Doctor Johnson reports some forty-four odd cases of typhoid fever that he has treated in and near Peabody which were directly traceable to this source of infection, and Dr. Furst reports at least five cases in that immediate neighborhood which he now attributes to infection from the same source. Altogether, it is estimated that some seventy-six cases of typhoid have originated either primarily or secondarily from this single carrier in the community near Peabody covering a period of nine years, including the explosive epidemic following the eating of pressed-chicken sandwiches served at the missionary tea that were prepared by Mrs. D.

The writer is indebted to Dr. E. H. Johnson, of Peabody, and Dr. J. A. Axtell, of Newton, for the data herewith presented.

Echoes from the Fifteenth International Congress on Hygiene and Demography.

No. 1.

The Fifteenth International Congress on Hygiene and Demography was held in the city of Washington, D. C., September 23-28, 1912.

For months scientists and sanitarians have been summing up the results of study and experiment on the question of how to preserve and prolong life and wipe out disease, preparing to give the knowledge thus gathered to the world during the session of the congress.

An air of suppressed expectancy pervaded the more than 3000 delegates there assembled from all parts of the civilized world, and it was felt that this was to mark a new era of scientific enlightenment in disease prevention. Accredited delegates from thirty-three nations were present, and the latest word on sanitation, hygiene and demography was given out by the various experts in the nine different sections of the congress.

It was notable that the physicians did not have a monopoly of the congress, for in addition to the doctors present there were so-

ciologists, statisticians, actuaries, engineers, both sanitary and civil, managers of great industrial and transportation companies, sanitarians, bacteriologists and laboratory men of all kinds other than physicians, representatives of the army, navy, and other accredited delegates of the foreign countries, publicists, club women, educators, ministers, manufacturers, laborers, life-insurance men, and city, county and state health officers.

An exhibit building was erected on the mall facing the east front of the White House, in which was housed the "Great Health Show," as it was called by the newspapers.

The thing that attracted the most attention in the Kansas exhibit was "the oldest drinking cup in America," which was a heavy iron cup hammered out of a solid piece of iron, attached to a heavy iron chain, and was in use at the sulphur spring in Fort Scott, Kan., since the memory of man runneth not to the contrary. The cup was displayed in a box-case picture frame, with appropriate inscription, and immediately above was a stenciled copy of the first and original order of the Kansas State Board of Health abolishing the public drinking cup. At the last Summer School for Health Officers the Fort Scott cup was presented to the writer by the aggressive health officer of that city as a loving cup, in token of the new order of things, and incidentally, also, of the tender regard with which this old cup was held by the good people of Fort Scott.

A pictorial representation of the Kansas antify campaign and the Boy Scout movement was also shown, and a model of the first portable hypochlorite plant for treating a polluted water supply, in which Kansas claims to be the pioneer, was also displayed.

The congress was divided into the following sections:

- I.—Hygienic microbiology and parasitology.
- II.—Dietetic hygiene, hygienic physiology.
- III.—Hygiene of infancy and childhood; school hygiene.
- IV.—Hygiene of occupation.
- V.—Control of infectious diseases.
- VI.—State and municipal hygiene.
- VII.—Hygiene of traffic and transportation.
- VIII.—Military, naval and tropical (colonial) hygiene.
- IX.—Demography (vital statistics).

The addresses were generally of a high order of excellence, although many of us were handicapped by the fact that we did not understand the foreign languages in which many of the best papers were read, although an interpreter usually gave the gist of the paper in as few words as was necessary to develop the most important points of the address. Then, again, as one could not suc-

cessfully divide himself into nine different parts, many of the papers one would like to have heard were being read at the same time in the various sections.

Altogether, the congress was a great success, due in the main to the splendid organizing ability of the secretary-general, Dr. John S. Fulton, of Baltimore. The BULLETIN will attempt during the next few months to give an abstract of some of the more important papers presented, which, it is hoped, may in a small degree compensate those who are interested but were unable to attend.

In section VIII, Control of Infectious Diseases, Dr. J. C. G. Ledingham, of Lister Institute, London, England, spoke on the subject, "What Attitude Shall Sanitary Authorities Adopt toward Bacillus Carriers?" He said, in part, as follows:

The part played by human carriers in the spread of infectious disease is gaining wide recognition, and the problem of dealing effectively with these sources of infection has become of prime importance to the administrator of public health and to the experimental bacteriologist. Knowledge of the prolonged vegetation of specific germs in persons who have survived infection has brought about a clearer recognition of the fact that the scope of an infection is exceedingly difficult to define. Bacteriological research in the course of recent epidemics of enteric fever, diphtheria, cerebro-spinal fever and cholera, has shown that the clinical manifestation of an infection may vary from the typical description of the textbook to the very minimal dimensions which possibly only serological analysis can detect.

The Enteric Fever Carrier.—Discussion of (a) the practicability of systematic bacteriological examination of all typhoid convalescents before leaving hospital and the continued supervision of those who leave hospital in an infected condition. *Advantage of early recognition of the carrier.* (b) Methods of dealing with chronic carriers who are found to be infective: (1) The necessity of further experimental work on animals, with a view not only to the discovery of some efficient means of sterilizing chronic carriers, but also to the more rational treatment of bacillary infections generally (serum- and chemo-therapy), so that the intervention of the carrier state may be avoided; (2) the need of further legislative powers which will allow public health authorities to remove declared carriers permanently from participation in the milk trade; (3) urgency of instituting some system of notification of chronic carriers, and discussion of the practicability of enforcing the constant supervision of carriers whose infectivity has been proved; (c) necessity of endowing public health authorities with greater facilities for bacteriological investigation.

Diphtheria Carriers.—Discussion of (1) the great advantage resulting from local treatment of the carrier condition, thus reducing the potential infectivity of the carrier; (2) the question of the bearing of the virulence or nonvirulence of the carrier strain on the measures to be taken by the public health authorities.

Meningococcus Carriers.—Discussion of the early bacteriological investigation of contacts with a view (1) to diminishing the number of possible carriers, and (2) to reducing the infectivity of the healthy carriers by suit-

ble instructions. Further information is desired on the association of carriers with cases of sporadic post-basic meningitis. Bacteriological facilities for the early investigation of contacts are required.

Cholera Carriers.—Reference was made to the spread of cholera by convalescent carriers, and apparently healthy carriers who have had slight or indefinite symptoms which may have been completely overlooked. About half of those who recover from infection retain the vibrios for 10 to 14 days, while only 5 per cent or 6 per cent remain infective over 25 days. Of these latter 1 per cent or 2 per cent may carry for 2 to 3 months.

Dysentery Carriers.—In the spread of an epidemic, the mild catarrhal cases, convalescent carriers and cases relapsing at short intervals are the most active, but the healthy chronic convalescent carrier may also be an important factor.

Dr. Chas. V. Chapin, of Providence, R. I., spoke on the topic, "The Relative Importance of Aërial and Contact Infection," an abstract of which follows:

By air infection is meant the diffusion of the virus through the air of a room or ward, or through the outside air. It involves more than droplet infection, and has no reference to the air carriage of insect hosts.

Infection by air is no longer considered the chief factor in extension of contagious diseases. The existence of carriers and mixed cases affords such ample opportunity for infection by contact that the theory of aërial infection is no longer required by *a priori* reasoning. Attention is directed chiefly to experimental and epidemiological evidence.

Infection by Outside Air.—Formerly it was held that yellow fever, cholera, typhoid fever, influenza, scarlet fever, diphtheria, smallpox and tuberculosis were carried by the outside atmosphere from person to person, house to house, or even from town to town. Experiments establishing the insect origin of malaria and yellow fever and epidemiological evidence have entirely removed malaria and yellow fever from the list of air-borne diseases. No good evidence of the air carriage of typhoid fever or cholera has ever been advanced, and epidemiological studies have made it certain that food and drink, perhaps flies and contact, either with cases or carriers, leave no room for infection by air. Epidemiological studies, the short incubation, and the ubiquity of carriers, explain the rapid diffusion of influenza, while air carriage is rendered improbable by the weak resistance of the bacillus. Observations around hospitals and dwellings show that scarlet fever and diphtheria are not carried by the outer air. Bacteriologists tell us that tuberculosis probably is not. Careful analysis shows that there is no validity in the claim of certain English observers that smallpox may be carried a mile or more from a hospital.

Air Infection Indoors.—It is theoretically possible that diseases may be transferred through the air of houses and hospital wards, though the virus may be too diluted in the outer air to do any harm. Malaria and yellow fever, in the absence of mosquitoes, are never transferred from bed to bed. Hospital infection rarely occurs in cholera and typhoid fever, and when it does, is traced to contact infection. The bubonic type of plague, Mediterranean fever, cerebrospinal meningitis and poliomyelitis do not spread in hospital wards. Ample epidemiological evidence, as well as experiments by

Horrocks, and the work of the English Plague Commission, have demonstrated that Mediterranean fever and bubonic plague are not air-borne. Typhus fever is transferred by biting insects, and the experience of Edinburgh, Liverpool and Mexico shows that infection by air does not occur in hospitals.

A study of conditions in Providence has shown that scarlet fever and diphtheria are not air-borne from family to family in the same dwelling. Work done in France, England and the United States has shown that diphtheria and uncomplicated scarlet fever are not air-borne under such conditions. Opinions are divided as to measles. The trend of English opinion is that smallpox and chicken pox are occasionally air-borne, and perhaps also rubella and whooping cough. This is probably not the usual mode of infection.

Doctor Chapin's paper raised some sharp discussion, and while there seemed to be agreement as to the general statement of the minimum part played by air infection in the spread of disease, there was also an unwillingness to accept all of his statements as having been proven.

"Rural Hygiene" was responded to by Dr. John N. Hurty, secretary of the Indiana State Board of Health, in his own inimitable and breezy way. The current notion that the country was the most healthful place in which to live was seriously called in question because of the insanitary surroundings of the barn, with its accumulation of manure and flies; its outside toilet, open to flies and often to domestic animals; the unprotected water supply, the closed house in winter, and the patent-medicine habit. Doctor Hurty said in part:

The term is one to cover the conditions which must obtain in rural communities in order to secure the conditions of health. Rural hygiene is really not different from urban hygiene; the question is, How much and how shall the general principles of the science be applied?

The first step in rural hygiene is to see to it that rural dwellers are well born. The weak, the degenerate, and those exhibiting transmissible physical, mental and moral defects, should not propagate. Accurate birth, death and disease records are necessary for an understanding of the situation, and must be reckoned with. The rural dwellers should be made to fully appreciate the fact that disease prevention is possible, and being sick is the result of wrong living. Sanitary farm houses are rare, very many being very unsanitary. Too many are flat upon the ground, lacking ventilation beneath; they are damp; mould is frequently found in closets and in corners; bedrooms are small, and lighted and ventilated with one small window; water supply is frequently polluted; sewage disposal is by shallow pits open to flies and animals, and so situated as to pollute the well. Fly-culture conditions are usually in great perfection on farms. Barns and stables and their yards are generally too near the farm houses, abound in accumulations of manure, and the ground churned to a filthy pulp by animals. The proper preparation of food is not understood. Bread is very frequently

badly made, overfermented and not sufficiently baked; the yeast cells not being killed, sour stomach and dyspepsia are provoked. For good health, too much smoked, pickled and salted pork is used. The frying pan is overworked. Pickles and vinegar are abused. Oral hygiene is almost unknown in rural life; the teeth of the women and children are sadly neglected. Bath rooms are few and underbathing results. Much harm to rural health attends self-doctoring. The farmer must be raised out of the patent-medicine stage of ignorance.

In section 1 the subject of the increasing prevalence of trachoma and blindness received the engrossing attention the subject deserves. Incidentally, it was learned that the Public Health Service has been instructed to make a study of trachoma among the Indians of this country by the Bureau of Indian Affairs, as the disease is greatly on the increase, and many cases of blindness or partial blindness has occurred.

THE ETIOLOGY OF TRACHOMA.

Abstract of a paper by DR. ANNA W. WILLIAMS, Research Laboratory, Department of Health, New York City.

1. Hemoglobinophilic bacilli are found in cases of "trachoma" coincidentally with "prowazek (trachoma) inclusions."

2. These bacilli have the same cycle of development as that of the "prowazek inclusions."

3. These bacilli so far can not be differentiated from B. of Koch-Weeks or B. influenzae.

4. Clinically, cases beginning as acute contagious conjunctivitis may pass into the condition known as trachoma.

5. The above facts lead to the hypothesis that "trachoma" is caused by infection with one or more of the group of hemoglobinophilic bacilli, producing primarily an acute inflammation, and, secondarily, in susceptible cases, a subacute and chronic productive inflammation.

6. Acting on this hypothesis for the past year and a half, the acute contagious conjunctivitis cases, as well as those of "trachoma and allies," have been closely followed and treated in schools and homes. Now, there are practically no cases of "typical trachoma."

7. An opportunity to test further this hypothesis is afforded by the establishment of special mixed classes in schools for the isolation, study and treatment of these cases.

THE ROLE WHICH COMMON SALT AND WATER ASSUME IN THE NUTRITION OF MAN.

Abstract of a paper, by DR. HERMANN STRAUSS, Professor of Clinical Medicine, University of Berlin, Germany.

Common salt plays an important part as a regulator of the osmotic processes in the human organism, whereby the latter with greatest tenacity holds fast the percental concentration of its fluids. Man can get along on relatively small quantities (half grain) of "salt required by the tissues." But the majority of civilized men consume much greater quantities of common salt, and the principal quantity taken in food plays the part of a "sea-

soning salt." Therefore, the reduction, in diet, of common salt has its limits, since disturbances may ensue from too great a reduction. Where the supply is too abundant, the excess is secreted. As a result of the reduction of common salt taken, a failing in the secretion of gastric juice has been noted in dogs, and, therefore, in diseases of the stomach in men, it has been proposed, in the one case, of lack of hydrochloric acid in the gastric juice, to introduce copious quantities of common salt; and, in the other, of an increase in the secretion of gastric juice, to decrease the quantity of common salt in the food. But, in practice, with such a procedure, it has been possible to obtain only inconstant results.

I myself have pointed out that an excretory insufficiency of the renal function may be traced to a retention of common salt. Through the retention of water, this condition favors the development of dropsy, since the principal amount of the retained salt finds lodgement in the organism in the form of a "seroretention," while only a small part is deposited in the form of a "historetention." In consideration of these established opinions, for a decade, I have recommended a limitation of the supply of salt in the food, and a medicinal stimulation of salt elimination, in the prevention and treatment of hydronephrosis.

The situation, with regard to uncomplicated diseases of the heart, as well as incipient compensation disturbances in subjects of heart disease, is different than it is in cases of parenchymatous nephritis. Also, in inflammatory discharges, and in ascites resulting from cirrhosis of the liver, the circumstances are otherwise; and, in these conditions, the result of a deprivation of chlorine is very inconstant. But it is with right that, in alimementation in diabetes insipidus, there have been established requirements similar to those laid down for parenchymatous nephritics with an inclination toward dropsey; and the significance of a limitation of salt as a means of lessening the thirst, in all cases in which there is a question of a decrease of fluid in the aliment, is lately more highly appreciated than formerly.

The question of dry retention of chlorine is now not wholly clear. At present exact investigations as to the salt content of the skin are lacking. Also, the relation of salt-retention to the development of uremia has not yet been fully explained. I should be inclined at this time to state only that, *cætris paribus*, uremia occurs more readily in the nephritic organism which is poor in water, than in one where water is abundant, and I may also state that in the vomited matter of uremics an extraordinary quantity of common salt is found.

Through recent researches a very considerable relationship between bromine and chlorine has also been brought to light. Bromide poisoning may be successfully fought by means of an abundant supply of common salt.

In thorough deprivation of salt, and, likewise, in thorough limitation of fluids, an increase in the disintegration of albumin may be noted. On the other hand, an increase in the combustion of fat can not be shown. As a rule, salt-equilibrium is restored in 24 to 48 hours. On the contrary, following a formerly strict decrease of the supply of salt, it requires several days for the restoration of salt-equilibrium; and, in extreme retention of salt, increased elimination may be checked for many days.

Anyway, it cannot be denied that many healthy persons consume too great a quantity of common salt. Moderate amounts are not injurious. A certain quantity of salt, as seasoning, is permissible for civilized individuals accustomed to substances which stimulate the sense of taste.

THE CHOICE OF FOODS WITH REGARD TO DISEASE.

Abstract of paper by DR. CARL VON NOORDEN, Professor of Internal Medicine, and Director of the I. Medical Clinic, Vienna, Austria.

The discussion will be as to what lessons dietetic therapy holds for us in its connection with various diseases and disease groups, and what foods are serviceable or a hindrance to the attainment of the end desired. Only the major groups of food substances, such as proteids, fats, carbohydrates, spices and salts will be considered.

1. *Obesity.* Principle: Decrease in the caloric value of the food. This is best obtained through a decrease or total exclusion of the supply of fat. Carbohydrates, where relatively plentiful in the diet, should be barred out. In antifat treatments, the amount of contained albumin should, where possible, amount to not less than 100 gr. The supply of water must be curtailed only if the obesity is accompanied by disturbances of the circulation.

2. *Forced Alimentation.* Principle: Increase of the caloric supply over the diet for maintenance. Theoretically, it is all the same whether the center of gravity rests upon a large supply of carbohydrates or fats. In reality, 250 gr. of carbohydrate is seldom exceeded, because most carbohydrate foods possess a very great volume. The supply of albumin may not ordinarily be increased beyond 100-120 gr. By means of these, approximately 1800 calories, no satisfactory alimentative results may be obtained. The practical results depend always upon the increase in the supply of fat. In most cases the latter may be increased to 250 or 300 gr. daily, and then increases in weight of about 2 kilog. per week may be gained.

3. *Gout and Uric Acid Diathesis.* Principle: Decrease in animal foods; eventually total exclusion of the same. It is useful, in the case of every gouty patient, to undertake a separate "test of toleration," and, from the result of this test, to establish the patient's diet.

4. *Diabetes mellitus.* Principle: Avoidance of such foods as incite the organ of sugar production, the liver cells, to increased formation of sugar. Every undue stimulation of the sugar-forming organ has, as its result, not only an immediate lavish production of sugar, but also increases for the future its morbid excitability, while systematic care of the organ renders its recovery possible. Therefore, decrease, and, under some circumstances, total exclusion of the carbohydrates. Moreover, decrease of albuminous substances. It is essential in every case of diabetes to exactly determine under what dietetic régime and manner of living the least amount of superfluous sugar is formed. That order of diet is best under which the patient continues free from superfluous sugar.

5. *Feverish Diseases and Morbus Basedowii.* Principle: In both these diseased conditions there occurs an abnormal increase in caloric production. Simultaneously ensues a heightened sensibility in relation to the specific dynamic influence of proteids. In order to limit as far as possible the caloric production and the loss in weight, practical empiricism and theory likewise call for a scanty albumin supply, while weight is gained by an ample provision of carbohydrates.

6. *Diseases of the Digestive Organs.* Principle: A food supply which is sufficiently nourishing, while imposing as little tax as possible upon the diseased organs. A discussion of the injurious effect of certain combinations of foods. Report upon enterotoxic neuritis. Attack by means of protracted pure milk diet.

7. *Kidney Diseases.* Principle: As much rest as possible for the kidneys. The amount of the intake of those nutrient mediums whose products of metabolism leave the body through the kidneys should be reduced. The proteids come first in this regard. But this limitation should not be carried too far, since patients with chronic kidney diseases become anemic and weak if strict curtailment of the proteids is too long continued. Many spices irritate the kidneys, and indulgence therein must be limited; the same is the case with regard to alcohol. Common salt and water severely tax the kidneys.

Final words: Warning against schematic employment of dietary precepts. An effort must be made, on the one hand, to hold fast to the basic rules of nutrition-therapy, but, on the other, to duly take into account the individuality of the patient.

THE FLY IN POLIOMYELITIS.

Prof. M. J. Rosenau, of Harvard University, announced at a meeting of the Fifteenth International Congress in Hygiene and Demography at Washington, September 26, that he had apparently succeeded in transmitting poliomyelitis (infantile paralysis) from sick to well monkeys by the bite of the common biting fly, *Stomoxys calcitrans*. He allowed a number of these flies to bite monkeys sick with poliomyelitis in various stages of the disease, and then later allowed these same flies to bite 12 well monkeys. Of the 12 well monkeys thus bitten six became sick with well-marked symptoms of poliomyelitis, and of these three died. Three of the six monkeys thus infected had diarrhea and symptoms of enteritis during the course of the illness.

The *Stomoxys calcitrans* resembles in size and appearance the common house fly. It is most frequently found in and around stables. It is, however, by no means uncommon in houses. It bites animals as well as man, and sucks their blood, upon which it feeds.

Dr. Rosenau concluded from his experiments that, after the virus of poliomyelitis is taken into the body of the fly by biting an infected animal or person, some time must elapse before the fly is capable of transmitting the disease, and that the period which must thus elapse is probably less than 21 days.

UNKNOWN FACTORS IN THE ILL EFFECTS OF BAD VENTILATION.

Abstract of paper by DR. YANDELL HENDERSON, Professor of Physiology, Yale Medical School, New Haven, Conn.

The facts regarding ventilation present an extraordinary contradiction. Fresh air, sunlight and dry cool climates exert a decidedly beneficial effect upon health. Ill-ventilated dwellings decrease vitality. In some persons under certain conditions even a few minutes in a crowded room may produce acute ill effects. As to how these effects are produced physiology has up to the present time afforded no satisfactory explanation. The evidence is almost entirely negative. The ill effects of bad ventilation can not be due to lack of oxygen. It is probable that they are not due to any considerable degree to excess of CO₂. The idea that they are due to some poisonous substance contained in the expired air has in recent years been regarded as untenable. Recently this conception has been revived in a novel

form by the brilliant work of Rosenau. Even Rosenau's investigations do not appear, however, to afford the solution of this problem. The recent investigations of Hill in England and of Flügge and his pupils in Germany make it highly probable that the effects of fresh or vitiated air are brought about not by a direct action upon the lungs but indirectly through the skin. It appears probable that the temperature and moisture of the air surrounding the body are the essential elements.

According to the explanation to be suggested in this paper the condition of the skin exerts a potent influence upon the lungs. This may be in part a vaso-motor reflex acting upon the pulmonary circulation. More probably it is a chemical or hormone influence upon certain pulmonary processes. The evidence accumulated during recent years indicates that the lungs are not mere passive organs through which gases diffuse as though nonliving membranes. The investigations of Bohr, of Haldane and his coworkers and of the recent Pike's Peak expedition all tend to indicate that the lungs are the seat of vital activities of great importance to health. Thus under certain conditions the lungs secrete oxygen into the blood, and it appears that considerable oxidation may take place in the blood during its passage through the pulmonary vessels. The evidence available, although still far from complete, suggests that these pulmonary activities are indirectly but powerfully influenced through conditions affecting the skin, and that it is in this manner that ventilation influences health.

CAMPAIGN AGAINST CONTAGIOUS DISEASES OF CHILDREN.

Abstract of a paper by DR. WALTHER, EWALD, Akademie für Sozial- und Handelswissenschaften, Frankfurt a.M., Germany.

All contagious diseases have either yielded to modern hygiene and the fight against epidemics, or have at least been greatly affected by them, excepting infectious diseases of children, which in part only are true children's diseases. All cause great ravages among the children, so that far more die of these diseases than of all other infectious diseases combined; in comparison with these, the total number of victims of cholera and typhoid fever is far less. This condition prevails throughout Europe. The terrible effect of contagious diseases of children is not merely disclosed by mortality statistics, but in a general decline of young people. The battle can not be the same as in other infectious diseases where we have to proceed against bacterial components. Exciting and disseminating agents are rarely found in children's diseases.

Among the characteristics of the four diseases—measles, scarlet fever, diphtheria and whooping cough—are some of great importance because they give hints how best to combat the destructive effect of the disease. From an inquiry into morbidity and mortality by age periods we have learned that whooping cough is most prevalent and registers the highest mortality among infants, and that the other diseases appear most commonly between the ages of 2 and 5. If then we are to combat mortality in children's diseases, we must consider the fact that diseases intrinsically not so very dangerous may result fatally when they attack very young children, when rachitis exists and when they occur among the poor and especially in unsanitary surroundings and dwellings. It is against these conditions that we must direct our energies; we must adequately isolate very young children, insist upon hygienic living quarters and provide for the proper feeding

of infants. In whooping cough isolation only is possible. Either the afflicted or the unafflicted children may be isolated, and it is said that both measures have been resorted to in scarlet fever. It should perhaps be the duty of the authorities to provide living quarters for the healthy but suspected children. In diphtheria antitoxin reduces mortality. All diseases should as far as possible be under medical treatment. In order to combat the diseases themselves special measures are necessary. The systematic campaign carried on in accordance with the usual means for combating epidemics has proved inefficient in Germany, and particularly in Prussia; no effort is made to combat measles and whooping cough. An indirect influence upon the contagious diseases of children is exerted by the system of school physicians. The diseases, however, with few exceptions, no longer appear as school diseases. An efficient agency for combating diseases might result from an organized special force of caretakers by keeping a record of all cases of sickness occurring at school. All such cases should be investigated and a physician consulted, and in case of necessity, brothers and sisters should be guarded against contagion. This method of protection might be further extended to existing institutions, especially medical inspection of schools. In view of the large number of fatalities resulting from contagious diseases of children systematic measures are necessary.

SCHOOL DISINFECTION.

Abstract of a paper by J. T. AINSLIE WALKER, F. R. S. M., F. C. S., New York City.

Having regard to the constant recurrence of epidemics among school children and to the failure of all existing preventive measures, routine disinfection of schoolrooms should be given a thorough trial. In the absence of this precautionary measure the infective material diffused by children in the unrecognized stages of certain infectious diseases must accumulate on the schoolroom floors and constitute a standing menace to the health of pupils and teachers alike. Conceding that the major part of school infection is due to direct contact, a certain proportion is also due to the inhalation of bacilliferous dust.

Routine disinfection was introduced into the elementary schools of Great Britain in 1907. An experiment extending over a year was carried out by the Buckinghamshire Education committee with the view to obtaining reliable data as to the effects of routine disinfection. This consisted in comparing the attendances at two groups each consisting of twenty-four schools, of which one group had been disinfected and the other not. The result showed an appreciable superiority in the attendances at the disinfected schools over those at the nondisinfected schools.

For school disinfection, the liquid spray method is preferable to that of fumigation, for three reasons. It costs less; it insures actual contact between the disinfectant and the infected material; and it prevents dust from rising. At the close of each day the classroom floors should be thoroughly moistened with an efficient germicidal solution, and the desks and seats wiped with a cloth wrung out of the same preparation. Once a week the process should be extended to include the walls to a height of six or seven feet above the ground and once a quarter the classrooms should be thoroughly sprayed from floor to ceiling.

(TO BE CONTINUED.)

FOOD ANALYSES No. XXXVIII.

By Prof. H. P. Cady, Ph. D., Chemist for the State Board of Health, and Assistant Professor JACKSON, M. S., Food Analyst.

BAKING POWDER.

Baking powder should contain at least 10 per cent of available carbon dioxide, as this is the gas which is liberated when water or milk is added to the flour mixture, and is the ingredient that makes the product rise and be light when baked. If baking powder contains less than 10 per cent available carbon dioxide it is below the standard established in this state and is illegal. Baking powders may also be illegal because of untruthful, exaggerated or misleading statements, designs or devices on the label, even though they contain more than 10 per cent of gas. The ingredients used in making a baking powder must be stated on the principal label on each package or container.

BAKING POWDER.

Insp. No.	1. LABEL. 2. MANUFACTURER. 3. RETAILER.	Ingredients.	Available carbon dioxide.
70035	1. Signet Baking Powder † 2. Sherman Bros. & Co., Chicago, Ill. 3. C. D. Brumbaugh, Sabetha, Kan.	Alum, soda, starch.....	9.29
70037	1. Rocket Yeast Powder..... 2. Sherman Bros. & Co., Chicago, Ill. 3. F. G. Hamman, Sabetha, Kan.	Alum, soda, starch.....	16.84
9748	1. Rex Brand Strictly Pure Baking Powder.... 2. Royal Mfg. Co., 217 219 S. Santa Fe, Wichita. 3. Jones Weigand Tea and Coffee Co., Wichita.	Acid phosphate of calcium, soda, alum, bicarb. soda, cal. b. magnesia, corn starch, white of egg.	11.92
9751	1. The People's Baking Powder..... 2. J. C. Grant Chemical Co., E. St. Louis, Ill. 3. People's Tea and Coffee Co., Wichita, Kan.	Phosphate, bicarb. soda, corn starch, soda-alum, egg albumen, magnesia.	13.92
9771	1. Early Breakfast Brand Baking Powder.... 2. American Coffee Co., St. Louis, Mo. 3. D. O. Shurtleff, Chanute, Kan.	Alum, bicarbonate of soda, pure corn starch, egg albumen, acid phosphate.	
9838	1. High Grade Guaranteed Pure Baking Powder, 2. Frank Smith, Kansas City, Mo. 3. P. N. Lewis, Coffeyville, Kan.	Phosphate, alum, corn starch, magnesia.	15.8

*1. manufacturer; 2. jobber; 3. retailer. † Old stock.

NOTE.—Attention is called to No. 70037. This is not a yeast powder at all, and contains no yeast. Misbranded.

CATSUP.

Insp. No. 9262A. Label, "Punch Brand Tomato Catsup." ("Prepared with one-tenth of one per cent Benzoate of Soda.") Packed for Ridenour-Baker Grocery Company, Kansas City, Mo. Retailer, F. H. Hardin, Baldwin, Kan. Contains over twice as much benzoate of soda as is declared on the label. Illegal.

ICE CREAM CONES.

Insp. No. 6648. Label (inspector's), "Ice Cream Cones." Illegal. Contains borax as preservative.

Insp. No. 6649. Label (inspector's), "Ice Cream Cones." Illegal. Contains borax as preservative.

LEMON EXTRACT.

Here are several examples of gross adulteration and of fraudulent claims on the label. An extract containing five per cent of lemon oil has just reached the legal requirement for such a product. It is not "highly concentrated," or "concentrated" at all. It is not even "high grade." It is just ordinary "lemon extract" of the minimum strength required by law, and anything less would be illegal.

Insp. No. 6685. Label, "Ponath's Brand of Extracts, Pure Lemon Extracts (highly concentrated). Mfd. and Gtd. by Dr. E. Mueller & Co., Denver, Colo." Manufacturer, Dr. E. Mueller & Co., Denver, Colo.; retailer, A. F. Ponath, Junction City, Kan. Contains no oil of lemon. Illegal.

Insp. No. 70012. Label, "Sander's 10c Size Lemon. Ethyl alcohol 88 per cent by volume. Pure and Highly Concentrated." Manufacturer, Royal Remedy and Extract Company, Dayton, Ohio; retailer, H. C. Barger & Son, Edwardsville, Kan. Oil of lemon, 5.5 per cent. It is not "Highly Concentrated." Illegal.

Insp. No. 70014. Label, "Flavor of White Star Lemon. Guaranteed. Serial 22460." Manufacturer, White Star Medicine Company, St. Joseph, Mo.; retailer, Hefty & Reichart, Half Mound, Kan. Oil of lemon, 1.8 per cent. Illegal.

Insp. No. 80140. Label, "The Crescent High-Grade Flavoring Extract of Lemon. Satisfaction Guaranteed." Manufacturer, Crescent Drug Store, Glasco, Kan.; retailer, A. E. Martz, Glasco, Kan. (proprietor Crescent Drug Store). Oil of lemon, 2 per cent. Illegal.

Insp. No. 80196. Label, "Dr. Ball's Extract of Lemon. Natural Color and Flavor. Contains 5 per cent Oil Lemon. Guaranteed. Serial 31726." Manufacturer, Dr. S. E. Ball Medical Co., Mapleton, Kan.; retailer, Dr. S. E. Ball, Fort Scott, Kan. Oil of lemon, 4.6 per cent.

Insp. No. 80205. Oil of lemon, 6.8 per cent. Passed.

Insp. No. 9250. Label, "Snow Flake Lemon Flavoring Powder, Highest Grade. Important Directions: Use but about one-fourth as much Snow Flake Flavoring Powder as you would use of liquid flavoring extracts. As this flavoring powder is four times as strong

as ordinary extracts, a very small half teaspoonful will flavor a quart of ice cream or cake batter. Snow Flake Flavoring Powders are guaranteed to produce the true delicious fruit flavor. It is not necessary to dissolve the powder before using. **IMPORTANT:** Keep tightly covered in a dry, cool place. Snow Flake Flavoring Powder should be used for flavoring ice cream, sherbet, custard, cakes, puddings, in fact, anything where flavoring is desired." Manufacturer, Roland & Tullis, Chicago, Ill.; retailer, Turvey & Gabler, Burlingame, Kan.

A good example of a product made to sell on account of the extravagant claims made for it. See label above. It contained approximately two-thirds sugar and one-third starch, and at some time may have contained a small amount of citral, but at time of examination contained scarcely a suggestion of lemon flavor, and was utterly worthless as a flavoring substance. Even if made to be equal to lemon extract in flavoring power, the ingredients in the package would not equal one cent in cost; yet the retail price is 25 cents. It is not a product that would hold its strength well. Adulterated and misbranded.

VANILLA EXTRACT.

Insp. No. 7953. Label, "Eloma Compound Essence of Vanillin. Alcohol 20 per cent." Manufacturer, Eloma Manufacturing Company, Pueblo, Colo.; retailer, Wilson & Ward, McCracken, Kan. This is not vanilla extract, and does not claim to be, although some retailers are selling it as such, and probably many purchasers think they are receiving vanilla extract. It is a substitute for vanilla extract. If one wishes the true flavor of vanilla they should see that the label reads "Vanilla Extract" or "Extract of Vanilla" and nothing more.

Insp. No. 7990. Label, "King Compound Essence of Vanillin. Contains no artificial coloring. Gtd. by King Mfg. Co. . . . Serial No. 11116-A." Manufacturer, King Manufacturing Company, Topeka, Kan.; retailer, King Manufacturing Company, Topeka, Kan. Does not conform to the required standard for this product. Illegal.

Insp. No. 70015. Label, "Flavor of White Star Vanillin, Coumarin and Vanilla. Gtd. Serial 22460." Manufacturer, White Star Medicine Company, St. Joseph, Mo.; retailer, Hefty & Reichart, Half Mound, Kan. Misbranded; contains no vanilla extractive. Illegal.

Insp. No. 70020. Extract of Vanilla. Passed.

Insp. No. 80169. Label, "Ex. Vanilla." Passed

Insp. No. 80191. Label, "Ex. Vanilla." Flavor not that of vanilla. Odor not that of vanilla; peculiar. Doubtful.

Insp. No. 80195. Label, "Extract Vanilla. . . . Natural color and flavor." Flavor not that of vanilla; disagreeable. Odor not that of vanilla. Doubtful.

Insp. No. 9251. Practically the same remarks apply to this Snow Flake Vanilla Flavoring Powder as to 9250 above, namely, Snow Flake Lemon Flavoring Powder. It is not vanilla flavoring powder, but is adulterated and misbranded. Manufacturer, Roland & Tullis, Chicago, Ill.; retailer, Turvey & Gobler, Burlingame, Kan. Illegal.

Insp. No. 9585. Label, "Star Brand Vanilla Extract. Not over 20 per cent alcohol." Manufacturer, Star Manufacturing Company, Horton, Kan.; retailer, J. G. Rouse & Son, Selden, Kan. Not standard; adulterated and misbranded. Illegal.

Insp. No. 9628. Label, "Banner Imitation Vanillin, Vanilla, Tonka and Coumarin. 20 per cent alcohol." Manufacturer, Theo. Poehler Mercantile Company, Lawrence and Emporia, Kan.; retailer, Williams & Bayles, Miltonvale, Kan. Misbranded. Illegal.

Insp. No. 9639. Label, "Extract of Vanilla." Doubtful.

Insp. No. 7992. Broken in laboratory and sample lost.

Insp. No. 7993. Label, "King Imitation Flavoring of Strawberry. Made from pure strawberries and other harmless ingredients. Gtd. by King Mfg. Co., etc. Serial 11116-A." Manufacturer, King Manufacturing Company, Topeka, Kan.; retailer, King Manufacturing Company, Topeka, Kan. Artificially colored; synthetic flavor. Illegal

Insp. No. 9348. Label, "Pure Essence of Cinnamon." Passed.

CODFISH.

Insp. No. 7967. Sodium benzoate not in excess of quantity stated on label.

GRAPE JUICE.

Insp. No. 70054. Sample fermented in laboratory and was not analyzed.

HONEY.

Insp. No. 9354-C. Sent to food laboratory by purchaser, who suspected it was adulterated. It was found to be normal in every respect.

HORSE-RADISH.

Insp. No. 9583. Found to contain only tissue of the horse-radish.

ICE-CREAM DRESSING.

Insp. No. 7765. This substance is a liquid to be poured over ice cream. It is a solution of water: alcohol, 10.8 per cent; sugar, 34.5 per cent; a red coal tar dye, and the whole flavored with cinnamon.

MAPLE SUGAR.

Insp. No. 5080. Normal in every respect.

MILK.

The Ladies' Federated Clubs of Lawrence have asked the food laboratory to examine the local milk supply, and various ladies have taken samples of milk from their own milkman and delivered them at the laboratory.

They were examined for the addition of water and preservatives and for milk-fat content. Neither added water, nor preservatives were found in any samples. The per cent of milk fat, with name of dairyman and date of collection are given in tabular form below:

Insp. No.	NAME OF DAIRY.	Date.	Per cent milk fat.
9502A	Geo. F. Derby, Maple Lane Dairy	Mar. 5, '12	3.51
9502B	H. J. Fritzel, Jersey Dairy	Mar. 8, '12	4.77
9502D	E. M. Hamer, Cedar Valley Dairy	Apr. 8, '12	4.45
9502E	Lawrence Creamery Co., Pasteurized Milk, Ice Cream, Butter,	Apr. 8, '12	3.9
9502F	W. L. Klefer, Sanitary Dairy	Apr. 8, '12	4.27
9502G	H. J. Fritzel, Jersey Dairy	Apr. 8, '12	5.15
9502H	Sanborn & Chamney, Blue Grass Dairy	Apr. 11, '12	4.88
9502J	Bon Ton Dairy, W. A. Griffiths	Apr. 24, '12	4.08
9502K	L. R. Clawson, Purity Guaranteed	Apr. 25, '12	4.2
9502L	Geo. F. Derby, Maple Lane Dairy	May 6, '12	4.00
9502M	Lawrence Creamery Co., Pasteurized Milk, Ice Cream, Butter,	May 6, '12	3.8

NUTS.

Insp. No. 9739. Label (inspector's), "Pistachio Nuts." Suspected of being artificially colored with a dye. No dye present.

Insp. No. 9760. Label (inspector's), "Salted Peanuts." Passed.

OLIVE OIL.

Some of the following samples were labeled "Sweet Oil" and some "Olive Oil":

Insp. No. 20011. Label, "Sweet Oil." Passed.

Insp. No. 20024. Label, "Sweet Oil." Passed.

Insp. No. 20070. Label, "Sweet Oil." Inspector's remarks: "Original package lost. In stock one month." Retailer, H. E. Dengel, Kansas City, Kan. Adulterated with a large amount of cottonseed oil. Illegal.

Insp. No. 20071. Label, "Sweet Oil." Passed.

Insp. No. 20073. Olive Oil. Passed.

Insp. No. 20077. Olive Oil. Passed.

Insp. No. 20081. Label, "Olive Oil." Passed.

Insp. No. 80167. Label, "Olive Oil." Passed.

Insp. No. 80211. Olive Oil. Passed.

PRESERVES, JAMS, JELLIES, ETC.

Insp. No. 2871. Label, "Strawberry Apple Preserved Fruit." Passed.

Insp. No. 2964. Label, "Apple Butter." Passed.

Insp. No. 5564. Label, "Apollo Brand Corn Syrup, Apple and Sugar Butter." Manufacturer, St. Louis Syrup and Preserving Company, St. Louis, Mo.; retailer, M. Paulin, Wichita, Kan. Labeled 65 per cent corn syrup; contains but 34 per cent. Should be labeled plainly, showing it is a glucose apple butter. Illegal.

Insp. No. 5571. Label, "Peerless Princess Brand Fruit Preserves, Peach, Apple and Sugar. Contains Benzoate and Phosphate." Manufacturer, Wichita Vinegar Works Company, Wichita, Kan.; retailer, M. Paulin, Wichita, Kan. Amount of benzoate soda not stated. Old stock.

Insp. No. 5572. Label, "Apollo Brand Corn Syrup and Apple Jelly, artificially colored with certified color. Contains added Phosphate." Manufacturer, St. Louis Syrup & Preserving Company, St. Louis, Mo.; retailer, M. Paulin, Wichita, Kan. A glucose jelly, and should be so labeled. Amount of preservative used not stated. Illegal.

Insp. No. 5573. Label, "Apple Jelly." Passed.

Insp. No. 5574. Label, "Red Rambler Brand Imitation Blackberry Jelly. Contains Fruit Juice, Flavoring, Sugar, Corn Syrup, Coloring, Phosphate, $\frac{1}{10}$ of 1% Benzoate of Soda." Manufacturer, Otto Kuehne Preserving Company, Topeka, Kan.; retailer, M. Paulin, Wichita, Kan. Form of label incorrect; misbranded. Old stock.

Insp. No. 5575. Label, "Sunrise Brand Corn Syrup, Apple and Sugar, Compound Jelly. 60% Corn Syrup, 10% Sugar, 29% Fruit Juices, 1% Phosphate." Manufacturer, St. Louis Syrup & Preserving Company, St. Louis, Mo.; retailer, M. Paulin, Wichita, Kan. Not properly labeled, showing this is a glucose jelly. Illegal.

Insp. No. 5576A. Label, "Columbia Brand Corn Syrup Apple-Raspberry Preserves. Contains added Phosphate. 63% Corn Syrup, 32% Fruit, 5% Sugar." Manufacturer, St. Louis Syrup & Preserving Company, St. Louis, Mo.; retailer, M. Paulin, Wichita, Kan. A glucose preserve; should be so labeled. Illegal.

Insp. No. 5577A. Label, "Columbia Brand Corn Syrup Apple-Blackberry Preserves. Contains added Phosphate. 63% Corn

Syrup, 32% Fruit, 5% Sugar." Manufacturer, St. Louis Syrup & Preserving Company, St. Louis, Mo.; retailer, M. Paulin, Wichita, Kan. A glucose preserve; not properly labeled, giving that information. Illegal.

Insp No. 5578A. Label, "Columbia Brand Corn Syrup Apple-Plum Preserves. Contains added Phosphate. 63% Corn Syrup, 32% Fruit, 5% Sugar." Manufacturer, St. Louis Syrup & Preserving Company, St. Louis, Mo.; retailer, M. Paulin, Wichita, Kan. Misbranded. A glucose preserve; should be so labeled. Illegal

Insp. No. 9581. Label, "Forest City Brand Apple Jelly, 85 per cent; strawberry jelly 15 per cent. Manufacturer, Allen Bros. Co., Omaha, Neb.; retailer, A. E. Maxwell, Dellvale, Kan.

Besides the regular chemical tests for preservatives, artificial coloring matter, artificial sweetener and composition, No. 9581 was further tested by being submitted to ten different people for their judgment. The samples were given out in vessels that were not marked, so the persons tasting them had no idea what the flavor was supposed to be, and each judgment was rendered independently. Six thought the flavor was that of apple, two that it was plum, and two that it was either plum or grape. This tends to show two things: First, that a small amount of one fruit mixed with a large amount of another loses its own distinctive flavor unless it is very strong and characteristic to begin with; and second, that the appearance on the label of the name of a fruit, such as strawberry, when there is not enough of it present to give even a suggestion of its flavor, does actually constitute misbranding. People are actually deceived and misled, for on the label "Strawberry" is as prominent as is "Apple," but when the product is brought home, opened and used, the expected treat is found to be a delusion.

PICKLES.

Insp. No. 70036. Label, "Perfection High Grade Pickles. Free from artificial color. Contains 1-1000 part of benzoate of soda to prevent fermentation." Manufacturer, Marshall Vinegar Company, Marshalltown, Ia.; retailer, C. S. Brumbaugh, Sabetha, Kan. Sodium benzoate in excess of that stated on the label. Illegal.

Insp. No. 9710. Label, "Madison Brand Sweet Spiced Pickles. Preserved in distilled vinegar, flavored with choice spices and sugar. Prepared with .002 aluminum sulfate and .001 of benzoate of soda. Guaranteed, serial 1281." Sublabel, "No alum used." Manufacturer, Alart & McGuire, New York, N. Y.; retailer, Foetisch & Balch, Earlton, Kan.

Pickles prepared with aluminum sulfate or any metallic substance other than salt, illegal.

Insp. No. 9711. Label, "Fox River Brand Sour Gherkins Pickles. No Benzoate of Soda or Alum used." Manufacturer, Alart & McGuire, Green Bay, Wis.; retailer, John Goughan, Earlton, Kan. Salts of aluminum present. Illegal.

RICE.

Insp. No. 70013. Passed.

The following samples, coated with glucose and talc, were not labeled giving that information, and were therefore illegal.

Insp. No. 70021. Label, "Sheep's Head Brand Rice." Packed for Letts-Spencer Grocer Company, St. Joseph, Mo.; retailer, R. I. Wood & Co., Whiting, Kan.

Insp. No. 70022. Label, "Sheep's Head Brand Head Rice." Packed for Letts-Spencer Grocer Company, St. Joseph, Mo.; retailer, H. H. Benson, Horton, Kan.

Insp. No. 70023. Label (inspector's), "Bulk Rice." Jobber, Letts-Parker Grocer Company, St. Joseph, Mo.; retailer, Scott & Graham, Horton, Kan.

Insp. No. 70028. Label (inspector's), "Bulk Rice." Jobber, Reid, Murdock & Co., Chicago, Ill.; retailer, E. M. Newman, Sabetha, Kan.

Insp. No. 9667. Label, "Sheep's Head Brand Rice." Packed for Letts-Spencer Grocer Company, St. Joseph, Mo.; retailer, McInturff & Son, Clifton, Kan.

POWDERED SUGAR.

Insp. No. 70029. Free from starch.

VINEGAR.

All vinegar should contain at least 4 per cent of acetic acid, and should not contain anything that was not in the pure apple juice as first expressed from the apple. This means that water can not legally be added to vinegar or to the apple juice which is to be used for making vinegar. It means that acetic acid or commercial distilled vinegar can not be added to vinegar or apple juice; that added coloring matter, sugar, syrup, honey or molasses can not be added to vinegar or apple juice. The Kansas law is specific on the subject of vinegar, and is quoted below for the benefit of those not having the Statutes at hand.

Excerpts from the General Statutes of 1901:

"2319. *Adulteration of cider vinegar.* Every person who manufactures for sale or exposes for sale as cider vinegar any vinegar not the product of pure apple juice, known as apple cider, or vinegar not made ex-

clusively of apple cider, or vinegar into which any deleterious substances, drugs or acids have been introduced, shall for each offense be punished by a fine of not less than fifty nor more than one hundred dollars.

"2322. *Branding of cider vinegar.* Every person making or manufacturing cider vinegar shall brand on one head of the cask, barrel or keg containing such cider vinegar the name and residence of the manufacturer and the words CIDER VINEGAR; and any person or manufacturer who brands any cask, barrel, keg or other vessel with the name of CIDER VINEGAR which contains any liquid other than pure cider vinegar shall upon conviction be fined not less than fifty nor more than one hundred dollars for each barrel, cask, keg, or other vessel so branded."

Insp. No 9708. Label, "Cider Vinegar." Manufacturer not known; retailer, Halley-Mosher Mercantile Company, Thayer, Kan. This sample was incompletely fermented and the change into vinegar was still going on when it was received in the laboratory. Acid as acetic, 2.76 per cent. Illegal.

Insp. No. 9700A. Label, "White Wine Vinegar." Manufacturer, not known; retailer, Dunmire, Lawrence, Kan. The purchaser asked for white wine vinegar. Analysis of the product showed that colorless distilled vinegar was sold in place of the white wine vinegar asked for. Illegal.

Insp. No. 9709. Label, "Cider Vinegar." Manufacturer, S. E. Moore, near Galesburg, Kan.; retailer, Geo. W. Gelwix, Thayer, Kan. The same remarks apply here as to 9708. Acid as acetic, 1.74 per cent. Illegal.

Insp. No. 9714. Label, "Pure Apple Vinegar." Jobber, Chanute Wholesale Grocery Company, Chanute, Kan.; retailer, J. A. Carter, Chanute, Kan. Does not conform to required standard. Illegal.

Insp. No. 9717. Label, "Cider Vinegar." Manufacturer, A. Leatheman, Shaw, Kan.; retailer, Smith & Day, Shaw, Kan. Adulterated. Illegal.

ANALYSIS.

Acid as acetic.....	9.09%
Solids.....	5.24%
Polarization.....	-0.5° V.
Ash.....	0.69%
Alkalinity of water-soluble ash, c. c. n/10 acid.....	67.6%

VINEGAR RULINGS.

The following information should be carefully observed by all dealers handling vinegars:

REGULATION 15: Paragraph (h), subdivision 3.—Vinegars artificially colored or made from materials specially chosen to impart a color similar to that of cider vinegar, are held to be imitations of cider vinegar unless *each package, wholesale and retail, as delivered to the purchaser, is distinctly marked by a label which states the true nature of the article.*

TOPEKA, Kan., August 14, 1912.

To Manufacturers and Jobbers of Cider Vinegar:

After taking a census of the amount of diluted cider vinegar, and contracts for future delivery in the hands of Kansas jobbers, and taking into consideration the changed conditions due to the new federal rulings, and the fact that the jobbers generally are unaware they were not handling pure cider vinegar, "made wholly and entirely from the product of apples," the department feels that from the above considerations time should be given manufacturers, jobbers and dealers to adjust themselves to the new conditions brought about by the recent federal regulations.

Accordingly, November 1st, 1912, is given as the time when such stocks of diluted cider vinegar should be disposed of by manufacturers and jobbers, and January 1st, 1913, as the time limit for retail dealers to dispose of such stocks. Provided, that all diluted cider vinegar comply with the federal regulations as to quality, strength and brandings; and provided further, that retail dealers label each retail package with the words "Cider Vinegar, diluted." Very truly yours,

S. J. CRUMBINE, M. D.,
Chief Food and Drug Inspector.

By J. F. TILFORD,
Asst. Chief Food and Drug Inspector.

DISTILLED WATER.

Distilled water should be simply condensed steam which is generated for this purpose only, in a special boiler, usually called a still. The best practice in its manufacture passes the steam through some material or vessel which takes out any matter suspended in the steam, thus further purifying it, and when the steam is condensed provision is made for any foreign gas which might have been present in the boiling water to escape, and also for air to be absorbed in the water, thus producing what is known as aerated distilled water. Such a product is the purest commercial water, and is purchased by those desiring only the very best. It scarcely needs to be pointed out that it should be kept in the very cleanest of containers.

"Double-distilled" water would be water which was first distilled and condensed; then this distilled water put through the process a second time, so that each portion of double-distilled water would have been twice converted into steam and twice condensed. It is safe to say that very little, if any, such water is sold commercially, nor is it necessary or desirable, as the increased cost of such double distilled water would not be warranted. No improvement worth while would be made over water distilled once. Water distilled once in a well-designed still, properly run, is so very pure that nothing better is needed except in the most exacting scientific research. It is highly improbable that any so-called

"double-distilled water" is actually twice distilled, and if not it is misbranded and illegal.

Insp. No. 7020A. Label, "Double Distilled Water. Our System of Distillation Represents the Highest Degree of Purity Ever Reached by any Process." Manufacturer, Eads Water Company, Kansas City, U. S. A.; retailer, Robert Wagstaff, Lawrence, Kan. This sample was brought to the attention of the food laboratory by a person using the same.

Upon examination the five-gallon bottle was found to contain one large bug, about one-half inch long, and one fly, both covered with cobwebs and mold, and much dirt had settled on the bottom of the container. The water was evidently distilled water, but contained about eight times as much solid matter as the laboratory distilled water. The solid matter was probably derived from the dirt present. Investigation by the State Board of Health did not disclose who was responsible for the condition of the water. The firm manufacturing it states all water leaving their plant is sealed by a paper label and seal extending over the cork and down the neck of the bottle. The purchaser in this case states the seal was broken when the sample was delivered at his residence, and that several other bottles had been delivered with broken seals, although he had specially requested that only sealed samples be sent him.

In such cases the public must protect itself by receiving only sealed goods.

Answering Numerous Inquiries

CONCERNING THE TRANSACTIONS OF THE INTERNATIONAL CONGRESS ON HYGIENE AND DEMOGRAPHY.

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JOHN S. FULTON, *Secretary General*,
New Jersey avenue and B street, N. W., Washington, D. C.

Constipation.

One, of course, can be too outspoken on any number of matters, but, all things taken into consideration, there are no real reasons why false modesty should prevent outspoken statements of facts regarding the important matter of constipation.

Constipation derives its name from the Latin *constipatio*, meaning a crowding together. Corland gives the definition of constipation: "Infrequent or difficult evacuation of the feces"; in other words, constipation is the lack of full and free movement of the bowels.

Constipation is one of the most injuring and destroying troubles that the human race is heir to.

Constipation produces certain forms of poisoning, resulting in indigestion, nervousness, catarrh and rheumatism. It also produces, later in life, high blood pressure and premature old age.

Children should be instructed from the first in the importance of the necessity of frequent and regular movement of the bowels; in fact, even well-informed parents feel satisfied if there is a so-called movement once a day, no matter how imperfect, incomplete or inadequate it may be.

A prominent physician has this to say regarding "once a day not enough":

"There is a common and disastrous erring—namely, to assume that a single bowel movement for each twenty-four hours is all sufficient. To the extent where this one daily movement is a passage of costive (bound) feces, this one movement is radically wrong. Why? There is no organ in the body that absorbs moisture with greater avidity (greed) than does the rectum, the stomach not excepted. A dry, hard stool means that the moisture and other fecal ingredients have been absorbed by the lymphatics (vessels containing transparent, slightly yellow fluid of alkaline reaction). This spells intestinal autointoxication. If there is anything my observation has taught me, it is that a law of specific gravity of the urine and small percentage of urea are in close relationship with rectal constipation. Comparative zoölogic physiology should teach us that several bowel movements each day is normal."

No one can be termed in perfect health if constipated.

Constipation has been termed the curse of civilization. The bowels must be kept freely open if one is to enjoy health.

To those who are habitually more or less constipated it is advisable to resort to some of the many natural means of overcoming this difficulty. Following will be found a number of suggestions which are far better than physic.

DRUGLESS METHODS FOR THE CURE OF CONSTIPATION.

Here are three very effective exercises for stimulating the action of the liver and the intestines. Try them faithfully for several days before resorting to medical laxatives.

The best "liver loosener" is what is known as the "cradle rock." It is performed in the following manner: Stand with the legs wide apart. Raise both arms above the head, clasp the thumbs together and stretch the arms at full length rigidly upwards. While in this position, bend the body over as far as possible to the right and then to the extreme left. Eight times each way will be enough in the beginning, but you will accustom yourself to this exercise so that you can rock fifty times in each direction. This exercise massages the liver and greatly strengthens and stimulates that organ.

Second exercise: Stand as before with the legs wide apart, but with the hands on the hips. Now bend over to the right and try to touch the floor, just in front of the right toe, with the right hand. Leave the left leg straight, but bend the right knee. While thus pointing downward with the right arm, throw the left arm straight upwards in the air. As soon as you touch the floor, recover to first position with hands on the hips and legs far apart. Do this eight times, then reverse to left side, putting right arm in the air and touching the ground in front of the left toe with the tips of the fingers of the left hand.

Third exercise: Stand with legs together, feet firmly planted on the floor. Stretch arms out straight at sides and on a level with the shoulders. While in this position rotate the trunk on the hips from the extreme left to the extreme right. Do this until fatigued, and increase the number of times you do this from day to day.

These exercises, in the great majority of instances, will in a short time so strengthen the muscular action of the whole excretory system as to render laxatives unnecessary. Before resorting to physic, an earnest test of these exercises should be made.

THE WATER TREATMENT.

Many persons habitually constipated have gained relief by drinking slowly two or three glasses of cool water immediately upon arising, at least a half-hour before breakfast.

These are a few suggestions. Any competent physical culturist can show you many more. Try to cure your constipation by natural methods and without drugs. If unable to secure free movement once a day, you may as a last resort take some safe laxative medicine. It is best to consult your physician before doing so.

In addition to the physical-culture exercises just given, a moderate amount of exercise is beneficial. There is no need of an elaborate system, but every muscle in the body should be used with a certain amount of regularity, and particularly all muscles in the region of the stomach and abdomen. Long walks are good, and deep breathing should be learned and practiced. All these things are little ones, but they help more than one can imagine.—*Texas Bulletin.*

Health Epigrams.

Spare the cure, kill the child.

Coddle yourself and you invite pneumonia.

Fresh air is the best life insurance agency.

Colds are easily "caught" but hard to lose.

Alcohol is a preservative, but not of the health.

"Dope" for colds is "dough" for the doctor.

Why be afraid of a little fresh air in winter?

Good health is priceless, yet, it is without price.

The best defense against disease is the simple life.

Colds are not caught from fresh air, but from stuffy air.

Coddling; preparing for consumption and pneumonia.

To neglect sore throat is to give the undertaker a job.

Pure air makes pure blood; pure blood makes you disease-resisting.

The more sunlight and fresh air in your house, the less need of a doctor.

Sixteen to one. An ounce of prevention is equal to a pound of cure.

Health is not put up in bottles, and can not be bought at the drug store.

Don't wait till tomorrow if the child has sore throat. Call the doctor at once.

What some thrifty (?) people keep from the doctor they give—to the undertaker.

Tea, coffee, and alcohol are stimulants—not foods. They lift one up to drop him hard.

Don't hibernate; ventilate. Plenty of fresh air will make the fires of life burn brightly.—
From Journal of the Outdoor Life.

BULLETIN

OF THE

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S. J. CRUMBINE, M. D., Secretary and Editor.

W. J. V. DEACON, Registrar

No. 11.

NOVEMBER, 1912.

VOL. VIII.

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Go to it!

Are you on the job?

Are you trading with a clean grocer?

Nothing is comparable to the joy of work!

"Everybody's doing it"—violating the laws of health.

To ease another's heartache is to forget one's own.—*A. Lincoln.*

A joy and keenness for your work is usually an index of good health.

Save something for a rainy day, but do not use it all the first day it rains.

If fresh air day and night won't cure your cough, you had better see the doctor.

There are many troubles which you can not cure by the Bible or hymn book, but which can be cured by perspiration and fresh air.
—*Henry Ward Beecher.*

VITAL STATISTICS

**Reported to the Kansas State Board of Health for October,
1912.**

CONTAGIOUS AND INFECTIOUS DISEASES.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		September.		September.	
	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Tuber- culosis.	Cancer.	Births...	Deaths...
The State. totals.....	197	36	88	8	188	3	7	0	57	73		
September, 1911.....	303	30	111	9	170	1	48	1				
Allen.....	5	1	0	0	5	0	0	0	1	0		
Anderson.....	6	5	0	0	6	0	0	0	0	0		
Atchison.....	2	2	0	0	0	0	0	0	1	0		
* Barber.....									0	0		
Barton.....	2	2	0	0	0	0	0	0	0	0		
Bourbon.....	3	1	0	0	0	0	0	0	1	0		
Brown.....	1	1	0	0	0	0	0	0	0	1		
Butler.....	2	0	1	0	0	0	0	0	1	2		
Chase.....	1	1	0	0	0	0	0	0	0	0		
Chautauqua.....	1	0	0	0	2	0	0	0	0	1		
Cherokee.....	0	0	3	1	0	0	0	0	0	1		
Cheyenne.....	0	0	0	0	0	0	0	0	0	0		
* Clark.....									0	0		
Clay.....	0	0	0	0	0	0	0	0	1	1		
Cloud.....	0	0	0	0	1	0	0	0	0	1		
Coffey.....	3	0	0	0	0	0	4	0	0	1		
Comanche.....	1	0	0	0	0	0	0	0	0	0		
Cowley.....	2	0	1	0	0	0	0	0	1	5		
Crawford.....	10	1	0	0	2	0	1	0	0	0		
Decatur.....	4	2	0	0	0	0	0	0	0	1		
* Dickinson.....									3	0		
Doniphan.....	3	0	2	1	1	0	0	0	0	0		
Douglas.....	1	0	3	0	0	0	0	0	1	2		
Edwards.....	3	0	0	0	2	0	0	0	0	0		
Eik.....	0	0	0	0	0	0	0	0	0	0		
Ellis.....	0	3	0	0	0	0	0	0	0	0		
Ellsworth.....	2	0	0	0	3	0	0	0	0	1		
Finney.....	1	0	0	0	0	0	0	0	1	0		
Ford.....	0	0	0	0	1	0	0	0	1	1		
Franklin.....	1	0	2	0	3	0	0	0	1	1		
Geary.....	0	0	0	0	3	1	0	0	0	1		
Gove.....	5	1	0	0	0	0	0	0	0	0		
Graham.....	1	0	0	0	0	0	0	0	0	0		
Grant.....	0	0	0	0	0	0	0	0	0	0		
Gray.....	0	0	0	0	0	0	0	0	0	0		
Greeley.....	0	0	0	0	0	0	0	0	0	0		
Greenwood.....	0	0	0	0	0	0	0	0	0	0		
Hamilton.....	1	0	0	0	0	0	0	0	0	0		
Harper.....	0	0	0	0	4	0	0	0	0	0		
									2	0		
* Harvey.....									0	0		
Haskell.....	0	0	0	0	0	0	0	0	0	0		
Hodgeman.....	1	0	0	0	0	0	0	0	0	0		
Jackson.....	1	0	0	0	0	0	0	0	0	0		
Jefferson.....	0	0	0	0	3	0	0	0	1	0		
* Jewell.....									0	3		
* Johnson.....									0	1		
Keary.....	2	0	0	0	0	0	0	0	0	0		
Kingman.....	0	0	2	0	0	0	0	0	0	2		
Kiowa.....	0	0	0	0	0	0	0	0	1	0		
Labette.....	0	0	2	0	0	0	0	0	3	0		
Lane.....	0	0	0	0	0	0	0	0	0	0		
Leavenworth.....	0	0	4	0	15	2	0	0	0	0		
Lincoln.....	1	1	0	0	0	0	0	0	0	1		
Linn.....	1	0	2	0	0	0	0	0	0	1		
Logan.....	2	0	0	0	0	0	0	0	0	0		
Lyon.....	9	2	1	0	8	0	0	0	1	1		
Marion.....	4	0	7	2	0	0	0	0	0	0		
Marshall.....	0	0	0	0	2	0	0	0	0	1		
McPherson.....	0	0	0	0	0	0	0	0	1	1		
Meade.....	0	0	0	0	0	0	0	0	0	0		

CONTAGIOUS AND INFECTIOUS DISEASES—Continued.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		September.		September.	
	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Tuberculosis.	Cancer.	Births..	Deaths.
Miami.....	0	0	0	0	0	0	0	0	1	0		
Mitchell.....	3	1	2	1	0	0	0	0	0	0		
Montgomery.....	2	2	0	0	2	0	0	0	0	0		
* Morris.....												
Morton.....	0	0	0	0	0	0	0	0	0	0		
Nemaha.....	0	0	0	0	0	0	0	0	1	1		
Neosho.....	1	0	1	0	1	0	0	0	1	0		
Ness.....	2	0	1	1	0	0	0	0	0	0		
Norton.....	1	0	0	0	0	0	0	0	0	1		
Osage.....	2	0	0	0	0	0	0	0	0	2		
Osborne.....	3	0	2	0	0	0	0	0	0	0		
Ottawa.....	0	0	0	0	4	0	0	0	0	0		
Pawnee.....	1	0	0	0	5	0	0	0	0	0		
Phillips.....	0	0	1	0	0	0	0	0	1	0		
Pottawatomie.....	0	0	6	0	0	0	0	0	0	0		
Pratt.....	3	0	0	0	0	0	0	0	0	1		
Rawlins.....	0	0	0	0	0	0	2	0	0	0		
Reno.....	0	0	0	0	0	0	0	0	0	2		
Republic.....	4	0	0	0	3	0	0	0	1	0		
Rice.....	2	0	0	0	6	0	0	0	0	0		
Riley.....	3	0	0	0	2	0	0	0	0	1		
Rooks.....	1	1	0	0	0	0	0	0	1	1		
Rush.....	2	0	0	0	1	0	0	0	0	1		
Russell.....	0	0	1	0	0	0	0	0	0	0		
Saline.....	1	0	0	0	2	0	0	0	1	0		
Scott.....	0	0	0	0	0	0	0	0	0	0		
Sedgwick.....	5	0	0	0	4	0	0	0	0	1		
Seward.....	4	0	0	0	2	0	0	0	1	1		
Shawnee.....	0	1	1	0	0	0	0	0	1	0		
Sheridan.....	3	2	0	0	0	0	0	0	0	0		
Sherman.....	0	0	0	0	0	0	0	0	0	0		
Smith.....	1	0	0	0	3	0	0	0	0	1		
* Stafford.....												
* Stanton.....												
Stevens.....	0	0	0	0	0	0	0	0	0	0		
Sumner.....	3	0	1	0	0	0	0	0	1	0		
Thomas.....	1	0	0	0	0	0	0	0	0	0		
Trego.....	2	0	0	0	0	0	0	0	0	0		
Wabaunsee.....	0	0	0	0	2	0	0	0	0	3		
Wallace.....	0	0	0	0	0	0	0	0	0	0		
Washington.....	7	0	0	0	0	0	0	0	1	2		
Wichita.....	8	1	5	0	3	0	0	0	0	0		
Wilson.....	1	0	1	0	15	0	0	0	1	2		
Woodson.....	1	0	0	0	2	0	0	0	0	0		
Wyandotte.....	0	0	1	1	2	0	0	0	2	0		
Cities:												
Atchison.....	1	0	3	0	0	0	0	0	1	0		
Coffeyville.....	2	0	0	0	0	0	0	0	0	0		
Fort Scott.....	1	0	1	0	7	0	0	0	0	0		
Hutchinson.....	3	0	0	0	2	0	0	0	1	3		
Independence.....	0	0	0	0	0	0	0	0	0	0		
Kansas City.....	7	2	16	1	4	0	0	0	5	4		
Lawrence.....	0	0	0	0	0	0	0	0	1	1		
Leavenworth.....	0	0	2	0	29	0	0	0	3	1		
* Parsons.....									1	1		
Pittsburg.....	2	0	1	0	1	0	0	0	0	2		
Topeka.....	1	0	7	0	11	0	1	0	6	6		
Wichita.....	8	2	5	0	3	0	0	0	1	2		

* No report.

DEATHS AND BIRTHS IN KANSAS,

Month of September, 1912.

DEATHS.

Stillbirths not included.

Typhoid fever.....	52
Smallpox	2
Measles.....	0
Scarlet fever.....	2
Whooping cough.....	3
Diphtheria.....	5
Dysentery.....	8
Tuberculosis, all forms.....	57
Cancer, all forms.....	73
Rheumatism, all forms.....	7
Diabetes.....	13
Other general diseases.....	26
Meningitis.....	9
Cerebral hemorrhage.....	61
Paralysis.....	34
Other diseases nervous system.....	32
Organic heart disease.....	89
Other diseases circulatory system.....	29
Broncho-pneumonia.....	9
Pneumonia.....	7
Other diseases respiratory system.....	17
Diarrhea and enteritis (under 2 years).....	104
Diarrhea and enteritis (2 years and over),.....	39
Appendicitis.....	13

Diseases of liver and adnexa.....	16
Peritonitis.....	6
Other diseases digestive system.....	32
Acute nephritis.....	9
Bright's disease.....	73
Other diseases genito-urinary system.....	14
The puerperal state.....	21
Diseases of the skin, etc.....	2
Diseases of the bones, etc.....	0
Malformations.....	22
Diseases of early infancy.....	104
Old age.....	70
Suicides.....	19
Accidents.....	78
Homicides.....	13
Ill-defined diseases.....	14
Total deaths.....	1,184

BIRTHS.

Males.....	1,894
Females.....	1,792
White, 3,609.	Colored, 77.
Total births, 3,686.	
Stillbirths, 67.	

AGES AT DATE OF DEATH.

Ages.	No.
-1.....	212
1-2.....	62
3-5.....	21
6-10.....	30
11-15.....	15
16-20.....	36
21-25.....	42
26-30.....	40
31-35.....	44
36-40.....	49
41-45.....	42
46-50.....	44
51-60.....	111
61-70.....	150
71-80.....	177
81-90.....	95
91-100.....	10
100-+.....	0
Unknown.....	4
Total.....	1,184

SEX.	No.
Males.....	677
Females.....	507

COLOR.

White.....	1,108
Chinese.....	0
Indian.....	2
Black.....	74

SOCIAL CONDITION.

Single.....	471
Married.....	443
Widowed.....	234
Divorced.....	6
Unknown.....	30

NATIONALITY.

Native.....	1,012
Foreign.....	143
Unknown.....	29
Total.....	1,184

FOOD ANALYSES No. XL.

By PROF. E. H. S. BAILEY, Ph. D., chemist for the State Board of Health, and
ASSISTANT PROF. H. LOUIS JACKSON, M. S., food analyst.

OCTOBER, 18, 1912.

CANNED GOODS.

During the spring and summer considerable time has been devoted to the examination of fruit put up in tin cans.

While it is well known that the great majority of canned goods is of good grade, especially the vegetables, there are still instances when products put up in tin cans are unfit for consumption, and the attention of the public should be called to such cases. The present discussion deals chiefly with canned fruit, and falls under four heads:

1. Canning rotten fruit.
2. Canning green fruit.
3. Swelled canned fruit.
4. Salts of tin in the fruit.

1. Canning Rotten Fruit.

We have opened a number of cans in which upon casual inspection only, it was evident that the fruit was spoiled before being placed in the can. In such fruit as peaches, pears, apples, apricots, etc., which have a light-colored and firm flesh and are usually packed in large pieces or slices, rotten fruit is easy of detection, and is shown by the same brown discoloration we recognize in the fresh fruit. No housewife would "put up" such parts in her home canning. They would be cut away and only the sound material saved. Society is passing through a transition. Less food is being prepared in the home, where we knew exactly what went into it and how clean and careful were the methods used, and more, amounting to many thousands of tons of food, is being prepared in central establishments, where the general public knows nothing of the material or manner of preparing it. In many cases these establishments are everything that they should be, and frequently far outstrip the home in the perfection of their appliances. Nevertheless, there are other plants which lag far behind, are not what they should be, and turn out the product with which we are now concerned.

The public has the undoubted right to control all plants in which its food is handled, both by intermittent or constant inspection at the factory and by analysis of the product on the market.

The public has the right to insist that all spoiled parts be discarded and wasted, as far as food purposes are concerned, as they would be in the home. The public has the right to insist that the manufacturer shall bear all loss arising from using inferior materials or processes. This is just, for the manufacturer alone is able to control these factories; the consumer never is.

Consumers, being counted by hundreds of thousands to each food inspector, should be vigilant to notice the appearance of any spoiled parts of fruit in cans, and at once take it back to the groceryman and explain that only goods sound in every respect and of good quality will be accepted, and ask for other cans in place of those showing partly rotten material. This should always be done, just as quickly and as certainly as one would have discarded like material if canning in one's home. In this way the responsibility can be transferred back through the retailer, wholesaler and sales company to the original packer. If the people want protection they should be as ready and as active in their own protection as they expect public officials to be.

2. Canning Green Fruit.

As to this, too little work has been done to warrant an extended statement, but some of the fruit opened certainly impresses one as being packed green, and was of a very inferior nature.

In this case, also, the public must protect its interests, and each individual return inferior goods and insist that one is not a market for such products.

3. Swelled Canned Goods.

Those are such as have been insufficiently sterilized, and, after a time, ferment. Some dealers carry on a regular trade in them. Of course, if people buy such knowingly, they have no protection. The wholesomeness of such goods is always questionable, and they may at any time be dangerous. The safe way is not to use them, but take only sound goods.

Some large dealers have these swells punctured to let out the gas arising from the decomposition, reheat and resolder them. New and attractive labels are then put on, reading differently from the originals, and they are then sold as sound goods. This treatment can never make the fruit equal to the original sound product, and serves merely to hide the presence of inferior material and to deceive and mislead the purchaser. Such goods are both adulterated and misbranded.

4. *Salts of Tin in the Fruit.*

This subject is connected with the preceding. The content of the tin has been determined in a large number of cases in the flesh of the fruit itself. The public would naturally expect some tin in the liquid surrounding the fruit, but it should be generally understood that tin is in the flesh of the fruit also. The amount of tin in the fruit itself often runs very high, in not a few cases being two, three and four times the maximum amount allowed by the United States government. The tendency is for the tin to be much greater in amount in the case of swelled and spoiled fruit. This, then, is an additional reason for using only sound canned goods, for salts of tin certainly are not a natural constituent of the diet, and are introduced into our bodies only by our changed manner of living, which consumes large amounts of tinned goods.

The amount of tin can be roughly judged by the appearance of the interior of the can after opening it. If the surface is much etched, so that it looks like a heavily frosted window pane, and is not smooth and glossy, then the fruit will certainly contain much tin. The amounts of tin found in the various canned fruits, with other information regarding them, appear in the table below.

That the significance of these values may be more clearly understood, the following quotation is taken from Food-inspection Decision No. 126, issued September 30, 1910:

SALTS OF TIN IN FOOD.

"The attention of the Board has been directed to canned goods which contain salts of tin derived from the solvent action of the contents of the package upon the tin coating. All foods which are canned subsequently to January 1, 1911, will be permitted importation and in interstate commerce if they do not contain more than 300 milligrams of tin per kilogram, or salts of tin equivalent thereto. When the amount of tin, or an equivalent amount of salts of tin, is greater than 300 milligrams per kilogram, entry of such canned goods, packed subsequently to January 1, 1911, will be refused, and if found in interstate commerce proper action will be taken.

"It is the opinion of the Board that the trade will experience little hardship in adjusting itself to this condition, as the results of examination made by the Bureau of chemistry of various types of canned goods indicate that in a very large majority of cases inconsiderable quantities of tin are found, well within the limit herein set.

BOARD OF FOOD AND DRUG INSPECTION."

ANALYSES OF CANNED GOODS FOR TIN CONTENT.

Sample No.	Substance analyzed for tin.	Condition of sample.	Milligrams (mg.) of tin, per kilo.	Hydrogen sulfide.
6707A	Peach pulp	Good	260.1	None.
6707B	"	Excellent	98	"
6707C	"	"	97	"
6707D	Plum pulp	Good	48.4	"
6707E	"	Swelled	233	"
6707F	"	Good	361	"
6707G	Pear pulp	Medium	798	"
6707H	"	Swelled	275.6	"
6707I	"	Good	73.9	"
6707J	Peach pulp	Swelled	427.9	"
6707K	"	"	246	"
6707L	"	"	124	"
6707M	Apricot pulp	Good	24	"
6707N	"	Fair	62	Slight trace.
6707O	"	Good	75	None.
6707P	Peach pulp	Swelled	170.2	"
6707Q	"	Inferior	227	"
6707R	"	Swelled	31.5	"
6707S	"	Normal	83	"
6707T	"	"	76.5	"
6707U	"	"	108	"
6707V	"	Bad	679	Trace.
6707W	"	Good	84	None.
6707X	"	"	114	Slight trace.
7549	Beets	Fair	954	Present.
70049	Apple butter	"	200	None.
9761	Peach pulp	Swelled	182	Trace.
9761A	"	"	563	None.
9761B	"	"	549	"
9761D	"	"	732	"
9770A	"	"	424	"
9770B	"	"	576	"
9770C	"	"	457	"
9770D	"	"	877	"
9770E	"	"	948	Present.
9770F	"	"	912	None.
9770G	"	"	348	"
9770H	"	"	568	"
9770I	"	"	189	None.
9770J	"	"	112	"
9770K	"	"	998	"
9770L	"	"	623	"
9775	Apple butter	Fair	154	"
9781	Peach pulp	Swelled	100.9	"
9781A	"	"	288	None.
9781B	"	"	317	"
9781C	"	"	138	Present.
9781D	"	"	383	"
9781E	"	"	196	"
9818	Apple butter	"	126	None.
9818A	"	Poor	41	Trace.
9818B	"	Inferior	97	Present.
9818C	"	Swelled	108	"
9818D	"	"	109	None.
9818E	Canned peas	"	1730	Present.
9818F	"	"	654	"
9818G	"	"	594	"
9818H	"	"	134	None.
9818I	"	Medium	98	Present.
9818J	"	Inferior	34	"
9818K	"	"	180	Small amount.
9818L	"	Swelled	470	Trace.
9818M	"	"	222	Present.
9854A	Peach pulp	Inferior	257.7	None.
9854B	"	"	81	"
9855-1	"	Swelled	430	Trace.
9855A	"	Fair	212.8	None.
9855G	"	"	143.4	"
9856A	"	Reprocessed	55	"
9856B	"	"	305.8	"
9856C	"	"	276	"
9856D	"	"	227.7	"
9856E	"	"	331	"
9856F	"	"	408.5	"
9856G	"	"	166	None.

ANALYSES OF CANNED GOODS FOR TIN CONTENT - CONCLUDED.

Sample No.	Substance analyzed for tin.	Condition of sample.	Milligrams (mg.) of tin per kilo.	Hydrogen sulfide.
9856H	Peach pulp	Reprocessed	314	None.
9856I	"	"	1158	Present.
9857A	"	"	169.4	"
9857B	"	"	308.2	Trace.
9857C	"	"	149.7	"
9857D	"	"	229.8	"
9857E	"	"	288.9	"
9857F	"	"	118.2	"
9857G	"	"	319.2	Slight trace.
9857H	"	"	384.9	"
9857I	"	"	389.8	None.
9857J	"	"	245.9	Trace.
9857K	"	"	1182.8	"
9857L	"	"	643	"
9857M	"	"	118.2	None.
9857N	"	"	400.4	"
9857O	"	"	156.8	"
9857P	Sweet potatoes...	"	196	Small amount.
9859	Plums	Swelled	308	None.
9859A	"	Springer	151	"
9859B	"	Swelled	160	"
9859C	"	"	477	"
9859D	"	"	205	None.
9859E	"	Fair	266	"
9859F	"	Swelled	118	"
9859G	"	Fair	247	"
9890	Peach pulp	Swelled	96	"

A study of the above table reveals some interesting facts. The designations, good, excellent, bad, fair, swelled, etc., in the column-headed "Condition of Sample," were applied after the examination of the contents of the can by sight, smell and taste, such as anyone might make without analysis. They were reached before the analyses were started and have no connection with them.

Dividing the whole list of 102 samples into two groups, the first including only those designated as good, excellent, medium, fair and normal, and the second comprising the swelled, inferior, bad and reprocessed, there are 22 in the first group and 79 in the second. No. 7548 is not included in either group, as it is known to be three years and two months old at least, and all the rest were purchased this spring. By a casual inspection of the table it is at once apparent that the fruit high in tin comes from the inferior, bad, reprocessed and swelled cans. There are only two instances of the tin running over 300 mg. per kilo, in the first group of the good product.

Averaging together all in the first group, the tin content is 166.8 mg. per kilo. Averaging all in the second group, the tin is 581.3. So those in bad condition, on the average, contain over 414 mg. more tin per kilo. than cans which were judged fair to excellent.

These facts are further shown in that, in the group of twenty-

two cans in normal condition, there are eleven that contain less than 100 mg. per kilo., only two above 300 and only one above 600, while in the spoiled cans, although there are 79 of them, only seven run below 100, thirty-six exceed 300, twelve are above 600, six above 900 and three above 1100 mg. per kilo.

In the first group 50 per cent of the samples contained less than 100 mg. of tin per kilo., while in the second group less than 9 per cent contain under 100 mg. In the first group only 9.1 per cent of the samples run above 300 mg. per kilo., while in the second group 45.5 per cent exceed 300 mg. per kilo.

That the condition of the above canned goods may be more fully understood, the following notes on some of the cans are appended:

Information Additional to Table I.

6707A. Large, firm halves; good flavor and appearance. Tin, 260 mg. per kilo. Label: Club House Brand Yellow Free Peaches. Distributor: Franklin MacVeagh & Co., Chicago, Ill.

6707B. Halves; condition fine; superior taste; interior of can bright, only slightly etched. Tin, 93 mg. per kilo. Label same as 6707A. Distributor same as 6707A.

6707C. Same as 6707B, but tin 97 mg. per kilo.

6707D. Good flavor and appearance; very soft pulp. Tin low, 43.4 mg. per kilo. Label: Club House Brand Green Gage Plums. Distributor: Franklin MacVeagh & Co., Chicago, Ill.

6707E. A swelled can; odor not good; juice full of bubbles, indicating fermentation; plums firm; taste fair; interior of can bright. Tin high, 233 mg. per kilo. Label same as 6707D. Distributor same as 6707D.

6707F. Large plums, in good condition; flavor good. Tin high, 361 mg. per kilo. Label and distributor same as 6707D.

6707G. A swelled can; pears in halves; taste rather inferior; fruit firm; color of fruit, some pink, others white; can slightly rusted inside, showing the tin has been entirely dissolved off in places. Tin high, 798 mg. per kilo. Label: Ferndell Bartlett Pears. Distributor: Sprague Warner & Co., Chicago, Ill.

6707H. A swelled can; halves; good appearance; pink color; taste normal. Tin much less than in 6707G, 276 mg. per kilo. Label and distributor same as 6707G.

6707I. Pears in halves; good flavor and appearance. Tin low, 75 mg. per kilo. Label and distributor same as 6707G.

6707J. A swelled can; peaches in halves; color and firmness fair; odor good; some rust in can. Tin high, 427.9 mg. per kilo.

Label: Ferndell Yellow Crawford Peaches. Distributor same as 6707G.

6707K. A swelled can; taste and odor fair. Tin, 246 mg. per kilo. Label and distributor same as 6707J.

6707L. A swelled can; flavor fair; can slightly rusted. Tin, 224 mg. per kilo. Label: Ferndell Sliced Lemon Cling Peaches. Distributor same as 6707J.

6707M. Condition good; flavor good; can only slightly etched. Tin low, 24 mg. per kilo. Label: Ferndell Sliced Apricots. Distributor same as 6707J.

6707N. Color and odor normal; can in good condition; a slight amount of gas was present in this can, and a trace of hydrogen sulfide, so it may be said to have just started to ferment. Tin low, 59 mg. per kilo. Label same as 6707M. Distributor same as 6707J.

6707O. Description same as 6707M. Tin, 71 mg. per kilo.

6707P. A swelled can; halves; some fruit overripe, other pieces hard and indicating rather underripe fruit used; taste and odor not bad; some rust in can. Tin rather high, 170 mg. per kilo. Label: Pickwick California Yellow Crawford Peaches. Distributor: Kansas City Wholesale Grocery Company, Kansas City, Mo.

6707Q. Halves, rather small; some pieces hard, indicating unripe fruit; appearance inferior; taste fair. Tin rather high, 227 mg. per kilo. Label and distributor same as 6707P.

6707R. A swelled can; can very slightly rusted. Tin low, 31.5 mg. per kilo. Label and distributor same as 6707P.

6707S. Sliced peaches; taste, odor and appearance normal. Tin low, 83 mg. per kilo. Label: Maple Leaf Brand Lemon Cling Peaches Sliced. Distributor: Ryley-Wilson Grocery Company, Kansas City, Mo.

6707T. Same as 6707S, but tin 76.5 mg. per kilo.

6707U. Same as 6707S, but tin 103 mg. per kilo.

6707V. A swelled can; it burst open in the laboratory and was leaking when opened; fruit large, but very soft from decomposition, and the halves fell to pieces on handling; odor sour. Tin high, 679 mg. per kilo. Trace of hydrogen sulfide present. Label: Sunkist Brand California Lemon Cling Peaches. Distributor: The J. K. Armsby Co., San Francisco, Cal.

6707W. Condition good; taste fine; extra large pieces of fruit. Tin low, 84 mg. per kilo. Compare this with number 6707V, which is of exactly the same fruit, pack and company.

6707X. The same description as 6707W, except for tin, which in this can was 114 mg. per kilo.

7548. The appearance fair; odor normal; inside of can badly etched. Hydrogen sulfide present. Tin high, 954 mg. per kilo. This is an old can; kept in the laboratory to see what effect the length of time would have on the tin content. It was purchased July 2, 1909; opened September 3, 1912. Label: Early Red Peaches.

70049. Apple butter; in good condition; taste and odor fair; interior of can coated with so-called enamel. Tin high, 200 mg. per kilo. Label: Yours Truly Apple Butter. Distributor: Fort Scott Wholesale Grocery Company, Fort Scott, Kan.

9761. A swelled can; halves, fair size; appearance inferior; inside of can etched and slightly rusted. Trace of hydrogen sulfide. Tin 183 mg. per kilo. Label: Yellow Free Peaches. Manufacturer: San Jose Fruit Packing Company, San Jose, Cal.

9761A. A swelled can; halves; appearance fair; taste slightly inferior; inside of can badly etched and slightly rusted. Tin high, 553 mg. per kilo. Label and distributor same as 9761.

9761B. A swelled can; appearance fair; taste slightly inferior; inside of can badly etched and rusted; specks of rust in juice. Tin high, 549 mg. per kilo. Label and distributor same as 9761.

9761D. A swelled can; halves; two kinds, one yellow and extra large, other medium size; appearance fair; odor normal; inside of can etched and slightly rusted. Tin very high, 732 mg. per kilo. Label and distributor same as 9761.

9770A. A swelled can; halves; in fair condition; can considerably etched and somewhat rusted. Tin high, 424 mg. per kilo. Label: Selected California Yellow Free Peaches. Manufacturer: San Jose Fruit Packing Company, San Jose, Cal. (All cans in the series 9770, A to L inclusive, have the same label.)

9770B. A swelled can; halves; fruit very firm; indicating rather unripe fruit; taste inferior; can etched and somewhat rusted. Tin high, 576 mg. per kilo.

9770C. A swelled can; halves; inferior in appearance, taste, color and odor; interior of can rusted and badly etched. Tin high, 457 mg. per kilo.

9770D. Halves; a swelled can; taste inferior; appearance inferior; specks of rust in juice; interior of can rusted and badly etched. Tin very high, 877 mg. per kilo.

9770E. A swelled can; peaches smelled sour; taste very inferior; soft pulp; appearance poor; hydrogen sulfide present; can badly etched and slightly rusted. Tin very high, 949 mg. per kilo.

9770F. A swelled can; halves; appearance bad; some pieces were dark in color; can etched. Tin very high, 912 mg. per kilo.

9770G. A swelled can; halves; pieces hard, indicating unripe fruit; interior of can badly etched and rusted; flavor inferior. Tin high, 348 mg. per kilo.

9770H. A swelled can; halves; rather small and hard, indicating unripe fruit; appearance inferior; odor not good. Tin high, 568 mg. per kilo.

9770I. A swelled can; peaches in halves; appearance inferior; can badly etched and slightly rusted. Tin 139 mg. per kilo.

9770J. A swelled can; appearance bad; interior of can corroded and rusted; halves of fruit were discolored and juice dark. Tin, 112 mg. per kilo.

9770K. A swelled can; appearance rather inferior; can corroded and slightly rusted. Tin very high, 998 mg. per kilo.

9770L. A swelled can; appearance poor; can etched and rusted. Tin high, 623 mg. per kilo.

9775. Apple butter; condition good; appearance fair and flavor normal; interior of can coated with so-called enamel. This finish was found soft and easily scraped from the interior of the can. Some cans had been eaten through in spots by the contents and were leaking. Tin, 154 mg. per kilo. Label: Maple Brand Apple Butter. Jobber: Davis Mercantile Company, Topeka, Kan.

9781. A swelled can; fruit in halves; some firm, others soft and inferior; can etched and rusted; color good; juice clear; taste normal. Tin, 100.9 mg. per kilo. Label: Our '84' Brand Yellow Free Peaches. Jobber: Wichita Wholesale Grocery Company, Wichita, Kan. (All cans in the series 9781, A to E inclusive, have the same label as 9781.)

9781A. A swelled can; halves of fruit, medium size; most of the pieces hard, indicating unripe fruit; the color of the fruit indicated the same thing; inside of can etched and somewhat rusted. Tin high, 283 mg. per kilo.

9781B. A swelled can; same remarks as for 9781A. Tin high, 317 mg. per kilo.

9781C. A swelled can; appearance bad; part of juice had turned dark; odor not normal; inside of can badly etched and slightly rusted. Hydrogen sulfide present. Tin, 138 mg. per kilo.

9781D. A swelled can; appearance poor; some of the pieces showed a change of color, due to decomposition; inside of can badly etched and rusted. Hydrogen sulfide present. Tin high, 383 mg. per kilo.

9781E. A swelled can; appearance poor; odor not normal; can etched and rusted. Tin high, 196 mg. per kilo.

9818. Apple butter; a swelled can; appearance inferior. Several cans were leaky from contents having eaten through the tin and iron of the can; these were not analyzed. All cans were coated with so-called enamel. Label: Clymers Brand Apple Butter. Manufacturer: St. Louis Syrup and Preserving Company, St. Louis, Mo. (All cans in the series 9818, A to D inclusive, have the same label.)

9818A. Appearance of butter poor. Hydrogen sulfide, a trace. Tin, 41 mg. per kilo.

9818B. Appearance poor. Hydrogen sulfide present. Tin, 97 mg. per kilo.

9818C. A swelled can; otherwise same description as 9818B. Tin, 108 mg. per kilo.

9818D. A swelled can; appearance poor. Tin, 109 mg. per kilo.

9818E. Canned peas; a swelled can; odor bad; inside of can coated dark; appearance of peas fair. Hydrogen sulfide present. Label: Valley Brand Early June Peas. Manufacturer: Valley Canning Company, Reedsburg, Wis. (All cans in the series 9718, E to L, have the same label.)

9818F. A swelled can; coating of enamel off the inside of the can and can rusted. Hydrogen sulfide present. Tin high, 654 mg. per kilo.

9818G. A swelled can; coating off the inside of can; can rusted. Tin high, 594 mg. per kilo.

9818H. A swelled can; same description as 9818G, except tin, 134 mg. per kilo.

9818I. Interior of can dark, but not rusty. Hydrogen sulfide present in large amount. Tin, 98 mg. per kilo.

9818J. Appearance inferior; odor not good; interior of can dark. Hydrogen sulfide present in small amount. Tin, 34 mg. per kilo.

9818K. Description same as 9818J. Tin, 130 mg. per kilo.

9818L. A swelled can; odor bad; inside of can coated dark; appearance of peas fair. Hydrogen sulfide, a trace. Tin high, 470 mg. per kilo.

9818M. A swelled can; inside of can coated dark. Hydrogen sulfide present in large amount. Tin, 222 mg. per kilo. Label: White Horse Brand Early June Peas. Distributor: Reed Murdock & Co., Chicago, Ill.

9854A. Peaches in halves; spoiled goods which had been

reprocessed and relabeled; fruit mostly soft and easily falling to pieces; a few very hard pieces; juice full of black specks; numerous dark spots on the fruit. Tin high, 257.7 mg. per kilo. Label: Cycle Brand Peaches. Jobber: Davis Mercantile Company, Topeka, Kan.

9854B. Spoiled goods which had been reprocessed and relabeled; fruit soft, falling apart when handled; juice full of black specks; can etched. Tin, 81 mg. per kilo. Label and jobber same as 9854A.

9855A. Spoiled goods which had been reprocessed and relabeled; fruit very soft and juice full of black specks. Tin, 212.8 mg. per kilo. Label and jobber same as 9854A.

9855-1. Reprocessed goods; a swelled can; odor poor; some pieces so soft they could not be handled whole; can badly rusted; Hydrogen sulfide present. Tin high, 430 mg. per kilo. Label and jobber same as 9854A.

9855G. Same description as 9854A. Tin, 143.4 mg. per kilo.

9856A. A reprocessed can. Tin, 55 mg. per kilo. Label: Cycle Brand Peaches. Jobber: Davis Mercantile Company, Topeka, Kan.

9856B. Reprocessed can. Tin high, 305.8 mg. per kilo. Label and jobber same as 9856A.

9856C. Same as 9856A, but tin, 275 mg. per kilo.

9856D. Same as 9856A, but tin, 227.7 mg. per kilo.

9856E. Same as 9856A, but tin, 331 mg. per kilo.

9856F. Same as 9856A, but tin high, 403.5 mg. per kilo.

9856G. Same as 9856A; also taste inferior and can etched and rusted. Tin, 166 mg. per kilo.

9856H. Same as 9856G. Tin high, 314 mg. per kilo.

9856I. Reprocessed, but can swelled again and burst; interior of can rusted and peaches sour. Hydrogen sulfide present. Tin exceptionally high, 1158 mg. per kilo. Label and jobber same as 9856A.

9857A. Spoiled goods reprocessed and relabeled. Tin, 169.4 mg. per kilo. Label: Cycle Brand Peaches. Jobber: Davis Mercantile Company, Topeka, Kan.

9857B. Fruit soft and inferior; can etched; juice dark, and dark spots on fruit. Hydrogen sulfide, a trace. Tin high, 308 mg. per kilo. Otherwise as 9857A.

9857C. Fruit of good appearance and taste, firm flesh; juice good color; a few black specks. Hydrogen sulfide, a trace. Tin, 149.7 mg. per kilo. Otherwise as 9857A.

9857D. Color and flavor good; most pieces firm, a few soft and discolored; black specks in fruit. Hydrogen sulfide, a trace. Tin, 229 mg. per kilo. Otherwise as 9857A.

9857E. Firm fruit except three pieces which were very soft; taste normal. Hydrogen sulfide, a trace. Tin high, 338.9 mg. per kilo. Otherwise as 9857A.

9857F. Fruit mostly firm; some discolored and soft. Hydrogen sulfide, a trace. Tin, 118 mg. per kilo. Otherwise as 9857A.

9857G. Fruit firm; color good; odor good and taste fair; can rusted; black specks in juice. Hydrogen sulfide, a trace. Tin high, 319 mg. per kilo. Otherwise same as 9857A.

9857H. Halves; firm; color good; odor good; slight rust. Hydrogen sulfide, a trace. Tin high, 334.9 mg. per kilo. Otherwise same as 9857A.

9857I. Some pieces showed fruit overripe; odor good; flavor fair. Tin high, 389.3 mg. per kilo. Otherwise same as 9857A.

9857J. Can only slightly rusted. Hydrogen sulfide, a trace. Tin high, 245.9 mg. per kilo. Otherwise same as 9857A.

9857K. Sliced peaches; discolored by decomposition; odor not good; excess of juice; fruit very soft. Hydrogen sulfide, a trace. Tin exceptionally high, 1133.3 mg. per kilo. Otherwise same as 9857A.

9857L. Description same as for 9856I, but can not so badly rusted. Hydrogen sulfide, a trace. Tin high, 643 mg. per kilo. Otherwise same as 9857A.

9857M. Tin exceptionally high, 1182.1 mg. per kilo. Otherwise same as 9857A.

9857N. Tin high, 400.4 mg. per kilo. Otherwise same as 9857A.

9857O. Fruit soft and inferior in appearance; inside of can etched, and bottom rusted so that large flakes of rust came off when scraped with a rod. Tin exceptionally high, 1568 mg. per kilo. Label: Cycle Brand. Jobber: The Davis Mercantile Company, Topeka, Kan.

9857P. Reprocessed sweet potatoes; reprocessed for Davis Mercantile Company, Topeka, Kan.; this can had swelled the second time and broke in the laboratory; the potatoes smelled somewhat decomposed; can etched but not rusted. Hydrogen sulfide present. Tin, 195 mg. per kilo. Manufacturer: The Puxico Canning Company, Puxico, Mo.

9889. A swelled can; plums; interior of can badly etched and somewhat rusted. Tin high, 307 mg. per kilo. Label: Oro Brand

Golden Drop Plums. Manufacturer: Fontana & Co., San Francisco, Cal. Jobber: J. J. Pierson, Parsons, Kan.

9889A. A "springer" that is, the gas from fermentation, had not produced enough pressure to bulge the ends of the can permanently. Flavor, color, and odor normal; can slightly rusted on inside. Tin, 151 mg. per kilo. Label, manufacturer and jobber same as 9889.

9889B. Plums; a swelled can; taste rather inferior; can rusted and etched. Tin, 160 mg. per kilo. Label, manufacturer and jobber same as 9889.

9889C. A swelled can; plums; small; many of them hard and evidently not ripe when canned; some stems left on, and in general they appeared to be inferior goods; flavor very poor; interior of can badly etched. Tin high, 477 mg. per kilo. Label: Universal Brand Green Gage Plums. Name of manufacturer scratched out, but it is a San Francisco, Cal., firm.

9889D. A swelled can; can etched and rusted. Tin high, 205 mg. per kilo. Label and manufacturer same as 9889.

9889E. Can etched and slightly rusted. Tin high, 266 mg. per kilo. Label, manufacturer and jobber same as 9889.

9889F. A swelled can; plums small; many of them hard and evidently not ripe when canned; some stems left on, and in general they appeared to be inferior goods; flavor very poor; interior of can badly etched. Tin, 118 mg. per kilo. Label, manufacturer and jobber same as 9889.

9889G. Plums; can etched and slightly rusted. Tin high, 247 mg. per kilo. Label, manufacturer and jobber same as 9889.

9890. Inspector remarks: "Using for pies from can; one end swelled." Retailer: Adam Faust, Parsons, Kan. Label: Del Monte Brand Lemon Cling Peaches. Manufacturer: California Fruit Cannery Association, San Francisco, Cal.

The Association for the Study of Pellagra.

A report of the second triennial meeting held at Columbia, S. C., October 2-4, 1912, by
C. H. LAVINDER, Surgeon, United States Public Health Service.

The second triennial meeting of the Association for the Study of Pellagra occurred at Columbia, S. C., October 3 and 4, 1912, the sessions being held at the State Hospital for the Insane. The meeting was well attended and much interest was shown in the long program.

After the invocation, and a few words of welcome by the governor of the state, the president of the association, Dr. J. W. Babcock, delivered an interesting address on the history of pellagra in the state of South Carolina.

The program contained some sixty-five papers on the various phases of pellagra, and covered the etiology, epidemiology, statistics, local history, diagnosis, laboratory investigations, clinical features, treatment and miscellaneous aspects of the disease. There were several contributions from European students, most of which were simply read by title, their authors not being present.

At the first evening session, an address was delivered by Surg. Gen. Rupert Blue on the "Problem of Pellagra." Among other important things he emphasized the need of men and money adequate to meet the difficulties of this very perplexing subject; and urged upon the states the necessity of making this disease reportable in order that proper statistical evidence might be secured as to the gravity and extent of this problem in the United States.

Resolutions were passed by the association on several matters. Some of these resolutions may be briefly summarized. The belief was expressed that the ultimate cause of pellagra is unknown, but that in view of the incrimination of spoiled corn "measures should be taken by the proper authorities to prevent its sale and consumption as food." The conviction was expressed that "no satisfactory evidence has ever been submitted which shows pellagra to be directly transmissible from man to man; and in the present state of our knowledge this association regards measures of quarantine and isolation for this disease unnecessary and unwise." The opinion was also expressed that "there is at present no known specific remedy for pellagra; and any claim made for this specificity of any especial therapeutic agent must be accepted with great caution." Pellagra was recognized in the United States as "a matter of great importance to the national public health" and approval was ex-

pressed of the interest displayed in this disease by the Public Health Service. The hope was expressed that "the Congress of the United States may appropriate sufficient funds for the continuance and extension of this work."

Officers were elected, and the association adjourned without any final decision as to the time and place of the next meeting, leaving this matter in the hands of the president and board of directors.

The character of the papers presented was good, and a large number of them showed evidence of much hard work on various features of the malady. The general tone of the meeting was encouraging, and it was abundantly evident that American students of the disease had come to recognize the need of less speculation and more work if important results are to be achieved. There was of course a certain amount of speculation, especially on the etiology, but most of this had some basis in real, honest work. While recognizing distinctly the importance which spoiled corn may bear to the disease, there was a distinct tendency to question the specificity of this relation, and to view the disease as perhaps due to some profound metabolic disturbance in which spoiled corn might be very largely concerned. There was equally evident a feeling, almost a conviction, that the disease is of an infectious nature, and probably insect-borne. Between these two extremes there ranged a variety of views on the subject.

Without attempting to go into details, there were presented several papers which brought out important observations. The Thompson-McFadden Commission, which has been at work this season, in South Carolina, presented papers on metabolism, bacteriology with especial reference to agglutination work, and epidemiology. Among these the paper presented by Jennings and King, from the entomological side, suggested the *stomoxys* fly as the possible carrier.

Beall, of Texas, presented a statistical and epidemiological study of the disease in Texas, and sharply brought out the observation, based on mortality reports, that there is a great disparity in the number of males and females affected; and further, that for the first two decades of life the death rate in the two sexes is about equal, while with the beginning of the third decade the female death rate rises while the male death rate does not rise. This female death rate continues disproportionately high till about the close of the fourth decade when it descends to meet again the male death rate.

Alsberg, Black and Marsh, of the Department of Agriculture,

presented interesting papers on the metabolism of molds found on spoiled corn and the results of feeding experiments with some of these molds. They showed that to speak of "spoiled corn" is to be very inaccurate, since the character of the chemical changes associated with this "spoiling" is by no means uniform. The ordinary blue mold, *Penicillium*, to which much importance has been attributed by the Italian school, has been found up to the present time, by Thom, to present some thirty varieties, all of them differentiated by their biologic products, some of which are toxic and some not. These workers have isolated two pure chemical substances from two different strains of these molds, and are still working with these substances. In their feeding experiments on rats with some varieties of *Penicillium* they obtained a mycotic broncho-pneumonia, showing that at least some varieties of *Penicillium* are pathogenic for rats.

Bravetta presented a brief paper regarding the micro-organism which Tizzoni claims to have isolated from pellagrins and which he has regarded as the specific cause of the disease. Bravetta's conclusions were that no such specific micro-organism exists, and he regards the micro-organism as simply a contamination. He stated that he had sent Tizzoni some blood from nonpellagrous individuals, and in this blood Tizzoni had found his micro-organism and grown a pure culture.

Volpino and his associates presented a paper describing an anaphylactic reaction in pellagrins from the subcutaneous or intramuscular injections of aqueous extracts of spoiled corn; and they had prepared from this aqueous extract a substance, which they called "pellagrogenina," which gave the same reaction. All controls failed to give the reaction. Their observations were based on a large series of cases.

Saunders read an interesting paper on the association of beriberi with pellagra in several cases in the asylum for the insane at Columbia, S. C. With regard to this matter it was brought out that the dietary of this institution about a year ago had been modified by the elimination of all corn and its substitution by rice. Subsequent to this in certain parts of the institution, at least, recrudescences of pellagra apparently were much reduced, and beriberi made its appearance, being several times associated with pellagra in the same individual.

The treatment of pellagra by salvarsan was discussed at some length, and in spite of the amazing results reported by Martin, it was the unanimous opinion that this remedy had little effect on

pellagra. The general impression seemed to be that the treatment of pellagra, if carefully carried out, offered hopeful results that drugs had little effect on the progress of the disease; and that the essentials are rest, diet, hydrotherapy, psychotherapy, and such symptomatic remedies as the case demands.

Singer and Pollock presented an admirable study of the histopathology of the central nervous system; Adler presented experimental results in rabbits from overfeeding on fats; Hirschfelder discussed fluorescent bodies in the blood of pellagrins; Cooper reported on intestinal parasites in pellagrins and nonpellagrins; Rice presented a study of pellagra among children in orphanages; Bass and Tucker brought out the importance of not overlooking mild cases; Hunter presented an experimental study of Sambon's hypothesis, using the *Simulium* fly and the monkey; Sambon's hypothesis was presented at length in papers by himself and by his followers in America. Lavinder and Grim presented papers on the statistics and epidemiology of the disease. Many other papers presented interesting points.

The Army of the Interior.

The distinguished German scientist, Virchow, writing on cells and cell life, wrote as follows: "Just as a tree constitutes a mass arranged in a definite manner, in which in every single part, in the leaves as in the roots, in the trunk as in the blossoms, cells are discovered to be the ultimate elements, so is it also with the forms of animal life. Every animal presents itself as a sum of vital units, every one of which manifests all the characteristics of life."

All other investigators are in fundamental agreement that the unit of all life, whether vegetable or animal, whether roses or reptiles, elephants or potatoes, kings or cabbages, are all a mass of cells and, strangely enough, all cells are shown to be made of the same material, "protoplasm."

There are many who doubt the miracles of the Bible, and yet there are as wonderful and awe-inspiring things going on about us daily as the greatest miracle recorded in the Bible. Two microscopic particles of protoplasm called cells, meet, they blend into one, and then multiply in some mysterious way, and become a child with an immortal soul. Two other microscopic particles of protoplasm, made of the same material so far as chemistry can determine, meet and blend and, behold, a rose! What a miracle!

Our bodies are composed, then, of a mass of cells, so-called

"fixed cells," fixed to each other to form organs, and flesh, and bone, and all the other parts of our body. In addition to the fixed cells, we have millions of single cells that lead a more or less independent existence; the blood contains millions and millions of such cells. Some of them are red and some of them are white. The red cells are so small that one hundred of them placed side by side would not equal the diameter of a grain of sand. They swim around in the blood in countless numbers, seemingly leading a roving existence, and yet they are absolutely essential to the continuance of life for one minute. Both kinds of cells are constant visitors to the lungs and liver, spleen and brain, tissues and organs of the entire body, carrying food and oxygen, as well as returning with the wastes of the body. They repair injuries and build up the body defenses, and when the fixed cells of the body are in danger of an invasion from hostile forces, such as disease germs, the white cells act as the national guard, or rather as the navy and marines, and away they go on the rushing red river, the bloodstream, to repel the invaders. And wonders upon wonders, without a hitch or a mistake! The cells loaded with food and oxygen do not seem to go "head on" with the sewage and garbage fleet carrying the poisons and wastes, the results of body functions or of war with our enemies, no confusion, no mistake, no rebates, and yet this wonderful commerce and war is carried on without our knowledge or "consent of this or any other nation."

There are about ten pints of blood in the average body, and yet the celebrated physiologist, Lewes, declares that the blood current carries not less than three thousand pounds weight of nutritive material to the various tissues of the body, and three thousand pounds of waste material from the tissues of the body annually.

With all this wonderful work of the independent, roving cells, without our direction or knowledge, we are prone to think each fall and spring that we need to take some "blood medicine" to purify the blood, so we begin to "dope" and "drug" in the most stupid and senseless way, as if there was ever anything but impure blood in the veins, which is the highway for the return blood from the tissues carrying the wastes of body metabolism, and as if the lungs and liver had ceased to perform their functions of purification and needed our "dope" to set them right. Let it be known that the old-fashioned notion of "impure blood" is a myth and a superstition, and has no place in the scientific knowledge of the twentieth century. It is a waste of perfectly good money to buy such remedies, and a burden and insult on your poor stomach to take them.

Live right and temperate, eat good, nutritious food, and drink pure, wholesome water; take plenty of exercise, and rest and sleep at least eight hours a day, and you can be assured that your blood will continue to look out after itself in the same sensible and thorough fashion it always has, without your help, and without your "knowledge or consent."

Health for Sale.

One of the most interesting and important papers presented before the Fourth National Conservation Congress, which met last week in Indianapolis, was written, not by a physician or a sanitarian, but by a business man, Mr. E. E. Rittenhouse, of the Equitable Life Assurance Company. Mr. Rittenhouse, in the opening paragraphs of his address, recognized the crucial point in the present situation. He said: "It takes money to carry on a great educational movement, and it takes money to conduct a public health service. The war between preventable disease and death is therefore a struggle between the dollar and the death rate." These words should be placed before every citizen, for his instruction and as a warning. With our present day knowledge of disease, good health is a commodity which can be bought, if our cities, counties and states are willing to pay the price. For \$1.50 per capita per year any community can practically banish those diseases which we now have the means of preventing and can greatly reduce the number of deaths from all causes. One dollar and a half per year! Not quite half a cent a day to save life from destruction by known causes! Three cents a week, twelve and one-half cents a month, to protect each man, woman and child from disease, which we know how to prevent and which we know will exact a toll of many lives during the next year and all succeeding years until proper preventive methods are inaugurated! A pitifully small sum one thinks. Yet how much are our most advanced commonwealths spending for this purpose? Pennsylvania heads the list with 48 cents per capita per annum; Arkansas, at the bottom, does not spend a cent; New York spends 1.7 cents; Massachusetts, 4.2 cents; Indiana, 1.8 cents; and so on. In 1911, fifty of the largest American cities, with a total preventable death list of 117,724, spent an average of 30 cents per capita to prevent disease, and \$1.65 per capita to prevent fires. If we could have in every city as good a sanitary service as we now have fire protection, many lives that are now needlessly sacrificed

could be saved.' The people can have such protection if they want it and if they will pay for it. Safety from disease can be obtained just as we obtain safety from fire and from thieves. Health can be secured if society will foot the bill.—*Journal A. M. A.*

Dangers of Spitting.

"Ninety-five per cent of our consumption," says the North Carolina State Board of Health, "comes from careless spitting, coughing and sneezing," particularly on the part of the consumptive, but also from people who are apparently healthy. "Spit is frequently laden with deadly disease germs, particularly that of consumptives.

"When one coughs, spits or sneezes, a great multitude of tiny drops of spittle are violently expelled from the mouth and nose. The largest of these drops can be readily seen. A large number of smaller droplets can be found if a mirror or piece of glass is held before the face when coughing or sneezing. A tremendous quantity of still smaller droplets are discharged in the form of an invisible spray or mist, which floats about in the air for some time. Scientists have found that when a man coughs, spits or sneezes in a large hall or room where the air is quiet, these tiny, invisible germ-laden droplets will float in the air for a distance of 25 to 100 feet. These tiny droplets, in the form of mist or spray, may be breathed in by other people, or they may settle on objects with which they come into intimate contact, such as food and clothing. Viewed in this light, such conduct is at least impolite. Furthermore, it is dangerous to the public at large to have careless people actually coughing, sneezing and spitting germ-laden matter into their faces even if it is invisible and in the form of fine mist."

Human Happiness a Business Asset.

Human life is gradually becoming recognized as a business asset. This is a new fact in the development of the race. Life insurance companies are realizing that they can increase their dividends faster by cutting down the death rate than by increasing sales or by reducing expenses. Employers of large numbers of men and women are realizing that, as a cold business proposition, it pays to take good care of their employees. Business men are learning that well-fed, well-clothed, contented men and women, working in well-lighted, well-ventilated quarters and on schedules arranged in accordance with our modern knowledge of psychology

and physiology, actually turn out more work and better work than underpaid, discontented help, working under uncomfortable and insanitary conditions. Therefore, some corporations are spending money liberally in playgrounds, rest rooms, libraries, gymnasiums, sanitary lunch rooms, safety devices, ventilating systems and similar devices for the well-being and enjoyment of their employees.

If one asks these employers why they are doing these things, they will disclaim any charitable or philanthropic motives. "This isn't charity," says one firm, "we want that clearly understood. This is simply good business and common sense. A well man is of more use than a sick man. A happy, contented woman turns out more work and better work than an unhappy one. Therefore anything we can do to make the people who do our work at ease in mind and body we regard as good business management." The firms that have realized the importance of this discovery are already reaping benefits. The conservation of the health of employees is a fundamental principle of good business.

Healthgrams.

"The more you expand your chest the less you will contract colds."

"Hygiene aims to make growth more perfect, life more vigorous, decay less rapid, death more remote."

"Closed windows are open friends to consumption."

"Cleanliness is next to godliness, but it takes many godly people some time to get 'next.'"

"It is a careless community that neglects health problems of its educational system."

"To prevent typhoid costs a few cents, to cure costs many dollars."

"Smallpox is a disgrace — vaccinate and save your face."

"Make your neighbor's yard jealous of your back yard."

"In the consideration of health, an ounce of intelligence is worth a ton of ignorance."

"The sanitary condition of a community is a matter that each individual should take interest in."

"Build your reputation for civic pride in your back yard."

"Because your neighbor throws garbage into the street, or alley, is no reason why you should follow his example, but it is a reason why you should set him a good example."

Health Greater Than Wealth.

"Since the greatest of our national assets is the health and vigor of the American people, our efficiency must depend on national vitality even more than on the resources of the minerals, lands, forests, and waters.

The average length of human life in different countries varies from less than 25 to more than 50 years. This span of life is increasing wherever sanitary sciences and preventive medicine are applied. It may be greatly extended.

"Our annual mortality from tuberculosis is about 150,000. Stopping three-fourths of the loss of life from this cause, and from typhoid and other prevalent diseases, would increase our average length of life fifteen years.

"There are constantly about 3,000,000 persons seriously ill in the United States, of whom 500,000 are consumptives. More than half this illness is preventable.

"If we count the value of each life lost at only \$1,700, and reckon the average earning lost by illness at \$700 a year for grown men, we find that the economic gain from mitigation of preventable disease in the United States would exceed \$1,500,000,000 a year. This gain, or the lengthening and strengthening of life which it measures, can be had through medical investigation and practice, school and factory hygiene, restriction of labor by women and children, the education of the people in both public and private hygiene, and through improving the efficiency of our health service, municipal, state and national."

"Doc."

From an address by WM. CUMBACK LATHROP, Norton, Kan.

The physician needs and wants the coöperation and confidence of the people; the people need the confidence and respect of their physicians.

Courtesy commands respect, and if there is one courtesy which commands more respect from the medical man than all others combined, it is the proper use of his title "Doctor." This degree, Doctor of Medicine, has been conferred upon him after four or five years of hard study. It is his title acquired because he has made suitable proficiency in the healing art, that his Alma Mater has conferred upon him their greatest honor. It is his by right of

conquest; it is his by right of courtesy. If you can not respect him personally, sufficiently to call him doctor, respect his profession at least that much. You may use all the profane language at your tongue's command, and all that you think you may ever acquire, and you can not insult him to such a degree as you can by simply calling him "Doc." This is the height of the climax, you can not go higher. Many people feel that they can show their kindness, their familiarity, by calling him "Doc." They mean it, not as a discourtesy, but as an evidence that they are a specially close friend of the doctor, but there is no man, woman or child who has full respect, nor will get the same treatment from the physician, as they will when they address him by the title he has earned, "Doctor."

Echoes from the Fifteenth International Congress on Hygiene and Demography.

(Continued from October BULLETIN.)

ON SALMONELLOSIS (PARATYPHIC BACILLUS B, BACILLUS OF FOOD POISONING, ETC.).

Abstract of a paper by E. SACQUERRE, Médecin Major de Lere classe, Professeur agrégé libre au Val de Grace.

I. Salmonellosis involves, as principal species, bacillus of food poisoning (Gärtner and Aertrycke types), paratyphic bacillus B, rodent's virus, some specimen of hog-cholera bacillus.

Action of specific serums divides Salmonellosis into two subgroups.

Belong exclusively to Salmonellosis, microbes presenting, besides indispensable general characters, the peculiarity to be agglutinated or to cause the deviation of the complement in presence of one or the other of specific serums for each one of the two subgroups.

II. Salmonellosis are extremely spread out. They are found, among others: With sick men in paratyphoid infections or food poisoning; with animals intended for consumption (or with butchers' meat animals), in the course of different diseases; with certain epizootics of rodents; with different polluted food; sometimes with men or animals in healthy condition.

III. In animal food the most frequently affected are meats and milk.

A. *Meats*. Infection may come because the animal was affected by a disease caused by Salmonellosis; these are the meats said to be *sickly*. The disease of the animal may or may not be accompanied with appreciable anatomic lesions. In all cases it is septicemia which forms the most important phenomenon.

The eventual presence of Salmonellosis in the meat of healthy animals is not impossible, but this does not appear as a serious sanitary danger. A meat primitively healthy may be infected after slaughtering (contaminated meats). The mechanisms of contamination are very varied; we must first mention the part of the people manipulating food in the kitchen, pork-butchers' shops, etc. Contamination may also be caused by contact with infected food, with unclean instruments, etc.

It is not demonstrated that well-characterized Salmonellosis may exist in food without causing accidents.

B. *Milk*. Same mechanisms of contamination as for meats. Besides, contamination by soiled water.

IV. Man may contract Salmonellosis infections either by direct contact or by ingestion of contaminated food or water.

V. Various Salmonellosis, all identical in bacteriology, probably differ by certain biologic properties.

VI. Prophylaxy should aim at: (a) The contagious person; isolation, disinfection; (b) the sanitary inspection of all people performing alimentary professions; (c) inspection of animals intended for consumption, before and after slaughtering, with a compulsory and generalized inspection; (d) inspection of pork-meat shops; (e) education of the public as to the use of rodents' virus and the possible danger from raw meats.

PHENOMENA OF ANAPHYLAXIS IN PELLAGRA PATIENTS INOCULATED WITH THE WATERY EXTRACT OF SPOILED MAIZE.

Abstract of a paper by PROF. GUIDO VOLTINO, Institute of Hygiene of the R. University of Turin, Italy. Director, PROF. L. PAGLIANI. (With the collaboration of DOCTORS A. MARIANI, E. F. BORDONI and L. ALPAGO NOVELLO.)

1. Pellagra patients, when subjected to an inoculation of a certain quantity of watery, spoiled maize, either subcutaneous or into the muscular masses, which are insufficient to produce appreciable phenomena in the great majority of nonpellagrous people, present after a few hours, and with rare exceptions, a distinct reaction of hypersensibility. Such a reaction manifests itself by dullness, drowsiness and a state of semicoma, or by a strong physical and nervous excitability. Such phenomena are accompanied in either case by a remarkable acceleration of the pulse, dyspnea, rise of temperature as high as 40°C., and often vomiting and increase in peristalsis, with bloody diarrhea, and sometimes aggravation of preëxisting eruptions.

2. The difference in the reaction due to such inoculation, as between pellagra patients and upon the nonpellagrous, is remarkable. There is rarely any appreciable reaction in the latter, even if treated with doses eight or ten times stronger than those which are sufficient to provoke reaction in the former.

3. The hypersensibility which manifests itself in pellagra patients after inoculation of this watery extract of spoiled maize has particular characters, which can not be produced by the injection of watery extract of sound maize.

4. The substance which determines such a reaction of the watery extract of spoiled maize is obtained by adding a given volume of the grain (deteriorated by mycotic action but not rotten), after having been finely triturated, to three or four volumes of physiological solution of chlorid of sodium; by keeping the whole in infusion for six hours in a *bagno-marie* at 55° C.; by filtering the liquid, and by treating it at last with twenty times its volume of absolute alcohol. In such a way a precipitation of the active substance is obtained in white flakes.

5. The active substance thus obtained, to which we have given the name

of "pellagrogenina," is soluble in water and not in alcohol; it does not lose its activity at a temperature of 110°-115° C.; it has only a slight degree of toxicity, both for the trial animals and, in general, for a sound man; it is, on the contrary, decidedly toxic for a man afflicted with pellagra.

6. The characteristic reaction of hypersensibility in the pellagra patient, which results when the watery raw extract of spoiled maize is injected into his body, are more notable when the pure pellagrogenina, dissolved in fit quantities of water, is employed. This pure material when injected into nonpellagrous persons has never given an appreciable reaction, though tried in numerous cases.

7. The results obtained in about 100 experiments made with this substance cause us to consider it of specific efficiency in the pathogenesis of pellagra, and induces us to propose it as a practical means of anaphylactic reaction for the diagnosis of pellagra.

In order to obtain the reaction in an appreciable degree, and without danger to those suspected to be pellagrous, the first injection should be limited to 1 c.c. of a 10 per cent watery solution (sterilized at 100° C.) of pure pellagrogenina. If no positive result is obtained by a first injection a double dose may be tried.

THE ROLE OF PROTEINS IN GROWTH.

Abstract of a paper by Dr. LAFAYETTE B. MENDEL, Professor of Physiological Chemistry, Sheffield Scientific School of Yale University, New Haven, Conn.

Some of the views held in the past regarding the interrelation of the food supply and growth are no longer tenable. Growth has often been associated in a casual way with the relative abundance of protein in diet. The parallelism between the protein content of the milk of various species and rate of growth may, in the familiar cases, be an example of correlation rather than of causation. Recent investigations have shown that the assumed association of growth with high protein intake is not confirmed by the evidence at hand.

Growth is a function of the cells. This inherent capacity apparently can not be exaggerated by feeding; but growth can be held in abeyance by various conditions. These include inadequacy of the food supply in respect to both quantity and quality of the nutrients. Attention must be directed to the chemical as well as the energetic aspects of the problems involved. In the past physiologists have largely disregarded the relative values of the individual members of different groups of food substances in nutrition, owing to an ignorance of the chemical characteristics of the individuals.

In considering the uses of protein in the organism, the distinction between the requirement for maintenance and that for growth must be clearly kept in mind. The development of a successful method of investigation by Osborne and Mendel has made it easy to approach some of the problems experimentally. The method will be explained in detail. Normal rate of growth has been induced in rate with dietaries containing various single purified proteins. But not all proteins suffice to promote growth under otherwise favorable conditions. Some suffice for maintenance without growth, whereby a prolonged period of stunting, or suppression of growth, can be induced; still other proteins are alone insufficient for the maintenance requirement.

The capacity to grow is not lost even after comparatively long periods of dwarfing, and a subsequent normal unimpaired rate of growth may be attained with a suitable protein dietary.

Aside from the apparent nutritive inequalities of the different proteins, other incidental findings, such as the synthetic features in growth and diverse questions raised thereby, present a multitude of viewpoints which may serve to direct further research in this field.

WHAT MEDICAL INSPECTION OF SCHOOLS CAN DO FOR THE TEACHER.

Abstract of a paper by Dr. Helen MacMurchy, Toronto, Canada.

1. *Organization.* Medical inspection of schools tends to better organization, and so increases the comfort and efficiency of the teacher.

2. *Infection.* By guarding the schools from contagious disease, medical inspection protects the teacher.

3. *A New Interest.* Medical inspection widens the teacher's horizon and brings the schoolroom into the sphere of interest of modern preventive medicine. The average school child may be made a sanitary reformer, and the teacher is the only one who can do it.

4. *The Difficulties of the Teacher.* If the pupil cannot hear the teacher or see distinctly the words, figures, etc., referred to by the teacher, then the efforts which should help the child are partly or wholly lost, and the teacher's work is rendered harder and less fruitful. Medical inspection, by ascertaining the condition of the general health, eyes, ears, etc., and leading to the cure of any defects and diseases, helps the teacher to do the work of the classroom.

The teacher often feels that something must be wrong with the child, but either does not know what it is, or fears that any attempt to direct the parents' attention to the defect will cause unpleasantness, or at best will not remedy the trouble. The medical inspector here becomes the teacher's helper, because the school physician can not only diagnose what is wrong, but has the authority to cause it to be set right, if possible.

5. *The Mentally Deficient Child.* These pupils are the source of much difficulty to the teacher, often causing disorder in the class, etc. School medical inspectors should remove these children to special classes, to their own benefit and to the great relief of all concerned.

6. *The Child as a Human Being.* Medical inspection of schools, dealing with each child personally, tends to impress on us the individuality of each child, and directs attention to his endowments of strength, special senses, etc. We are always trying to deal with human beings as soldiers, lawyers, children, women, Chinamen, or something less than human beings. The man or woman who is dealing with human beings as such (e. g., the teacher) is doing the highest kind of work.

7. *The Teacher's Own Health.* The health of the teacher suffers chiefly from (1) impure air and infection—diseases such as common colds, pneumonia, tuberculosis. (2) Eyestrain [caused by poor lighting, etc. (3) Nervous strain caused by constant demands on the willpower, patience, self-control, association with immature minds, etc. The dignity of the teaching profession is increased by the fact that by the law of the country

one of the other learned professions has been called to the teacher's aid, and authorized to use modern, scientific methods to prevent school infection, to improve schoolroom hygiene, schoolroom habits, ventilation, lighting, heating, cleaning, and the general morale of the classroom. Medical inspection of schools may be expected to improve the health of the teacher.

TRAINING IN PERSONAL HYGIENE IN PRIVATE AND PUBLIC SCHOOLS.

Abstract of a paper by PROF. JOHN W. RITCHIE, College of William and Mary, Williamsburg, Va

Man appreciates that which he understands. The members of this congress regard hygiene as important because they realize the possibilities there are in it for mankind. School authorities and teachers give little attention to hygiene because they have no comprehension of these possibilities. We must first of all convince teachers that health can be earned and purchased. Nothing so quickly brings them to a realization of the preventability of disease as comparative morbidity and mortality tables, accompanied by simple explanations of the fundamental causes of disease.

Systematic instruction in the principles of hygiene is necessary to keep pupils from becoming lost in the multitude of details. This instruction should be founded on a solid knowledge of the structure and functions of the different organs of the body, and of the principles governing metabolism and microbic infection. As long as the people of countries like the United States persistently follow hygienic fads, and fail to discriminate between arrant quacks and reputable medical practitioners, it is an exceedingly short-sighted practicality that desires to exclude from our school courses in hygiene those fundamentals of anatomy, physiology and bacteriology which throw the broad guiding lines through the maze of hygienic practice.

The teaching of hygiene should be begun before the habits of the child are fixed. Ordinarily nothing short of a complete collapse of the health will shake an adult out of his accustomed habits of eating, sleeping and working. Even some of the world's authorities on hygiene daily violate the rules they lay down for the public, because they formed their habits of living before they acquired their knowledge of hygiene. The teaching of hygiene should be begun while the child is yet in the plastic age, so that he can be sent out from school with a physical expression of his hygienic instruction in the habits of life.

Individual attention should be given to the hygienic habits of the child. Toothbrush clubs, fresh-air clubs, and other organized hygienic efforts are very valuable in fixing correct living habits. Much can be done to develop a right attitude toward hygienic questions and to fix the habit of properly regulating local environment by good hygienic conditions in the schoolroom and in the home.

The causes of sickness and the methods of preventing it should be taught in spite of the objections of those who insist that is wrong to instill into the childish mind ideas of disease. It is not the teaching of hygiene in the schools, but the presence of illness and death in the homes that give sensitive children morbid ideas of disease and death.

(TO BE CONTINUED IN THE JANUARY BULLETIN.)

Kansas.

An age before the count of time began
A wily serpent slipt into God's Paradise
And with a double tongue that slathered nice
And cock-sure phrases, stung the race of Man,
And Eden died. Time's sands unceasing ran
An eon ere a man declared "I CAN!"

But yesterday the fertile fields we till
Teemed large with demons bred by War and Hate;
And then Egyptian plague insatiate,
And drouth, and storm, and vile report. And still
With head unbowed, the Kansas cried: "Oh kill
My all, but none-the-less, I will. I WILL!"

And lo, the demons with their hellish horde,
Have left to us the Garden of the Lord.

—Marco Morrow, Topeka, Kan.

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S. J. CRUMBINE, M. D., Secretary and Editor.

W. J. V. DEACON, Registrar.

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DECEMBER, 1912.

VOL. VIII

KANSAS
Health Almanac
For 1913.

**“Good Health for Every Day of
Every Month.”**

Smallpox.

Every winter smallpox reappears in Kansas. Several hundred people at the very least have it. Houses are quarantined; neighborhoods are alarmed; business is damaged; many men and women suffer; some die. All of this is unnecessary, most of it is criminal. Every case of smallpox contracted in Kansas should be and can be prevented.

More than a hundred years ago Edward Jenner proved that vaccination prevents smallpox. Thousands of men have proved it since. Any man can prove it to-day, and in proving it give himself absolute insurance against this disease. Vaccination is far less dangerous than cutting a corn. It is less painful than the average cut finger. Yet it means years of protection against a loathsome disease. GET VACCINATED!



NEVER VACCINATED.

TO PREVENT SMALLPOX.

VACCIN
ISOLATE
FUMIGATE

The unvaccinated continue to have smallpox.

1st month.

January.

31 days.

D. of mo.	D. of wk.	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon rises.
			Rises.	Sets.	
1	W	Anti-pass law in operation, 1908.	7 18	4 49	1 44
2	Th	Two hundred Mennonites arrive at Great Bend, 1875.	7 19	4 50	2 58
3	Fri	Get vaccinated.	7 19	4 50	4 00
4	Sa	State Historical Soc. library began in auditor's office, 1875.	7 19	4 51	5 05
5	Su	Free-state legislature meets at Topeka, 1858.	7 19	4 52	6 09
6	M	Benjamin Franklin born, 1706 (O. S.).	7 19	4 53	7 05
7	Tu	Whole state shaken by earthquake, 1906.	7 19	4 54	sets
8	W	Geo. W. Glick inaugurated first Democratic governor, 1883.	7 18	4 55	6 02
9	Th	To avoid colds, keep your feet warm and house ventilated.	7 18	4 56	7 04
10	Fri	"Legislative war"—two houses of representatives, 1893.	7 18	4 57	8 05
11	Sa	Free Missouri sends greetings to Kansas legislature, 1865.	7 18	4 58	9 05
12	Su	Most colds are catching.	7 18	4 59	10 05
13	M	The neglected cold is the season's greatest danger.	7 17	5 00	11 08
14	Tu	Kaw Indians cede 2,000,000 acres of land to U. S., 1846.	7 17	5 01	morn
15	W	Dr. Chas. Robinson elected governor, 1856.	7 17	5 02	0 03
16	Th	First school in Kansas territory opened, 1855	7 17	5 03	1 05
17	Fri	As the weather grows colder take more exercise.	7 16	5 04	2 12
18	Sa	Nebraska south of Platte river seeks annexation, 1858.	7 16	5 05	3 22
19	Su	Lee's birthday, 1807. Paul Revere's ride, 1775,	7 15	5 06	4 34
20	M	Wm. T. Sherman applies for notary commission, 1859.	7 15	5 07	5 44
21	Tu	Statute of Sen. John J. Ingalls dedicated, 1905.	7 14	5 08	6 46
22	W	Gov. A. H. Reeder issued order for first census, 1855.	7 14	5 09	rises
23	Th	Gift of 20 acres of land for capitol accepted, 1862.	7 13	5 11	6 36
24	Fri	Birth of Elizabeth Simerwell, first white girl, 1835.	7 13	5 12	7 54
25	Sa	Many a cough ends in a coffin.	7 12	5 13	9 10
26	Su	Overland mail reopened after Indian troubles, 1865.	7 11	5 14	10 23
27	M	W. A. Peffer elected U. S. senator by People's party, 1891.	7 10	5 15	11 34
28	Tu	Provide dust baths for the poultry.	7 10	5 17	morn
29	W	Kansas admitted to the Union, 1861. Kansas Day.	7 09	5 18	0 43
30	Th	Every careless consumptive infects at least four others.	7 08	5 19	1 52
31	Fri	Wyandottes cede lands in Kansas to United States, 1855.	7 07	5 20	2 59

MOON'S PHASES.

- New Moon, 7th day, 4h. 28m., morning.
- ☾ First Quarter, 15th day, 10h. 2m., morning.
- ☾ Full Moon, 22d day, 9h. 40m., morning.
- ☾ Last Quarter, 29th day, 1h. 34m., morning.

An open window is better than an open grave.
 Warm rooms have killed more people than ever froze to death.
 A "stiff drink" makes the stomach warm but the skin cold.
 A stitch in the underwear may save a stitch in the side.
 Avoid patent medicines as you would a pestilence.
 Thinly clad feet make for heavy colds.

Pneumonia.

February is one of the worst months for the worst disease, pneumonia. This kills more people every year than any other human malady, not even excepting consumption. Pneumonia is a germ disease, and is caused by a small organism similar in some respects to those causing other diseases with which we are familiar.

The germs of pneumonia get into the lungs through the mouth, but not every man who has the germs in his mouth will have pneumonia. If he did, practically all of us would have the disease during the winter. It is only when the system is "run down" that the germs do their dread work. These are the things which make pneumonia flourish:

1. Excessive drinking alcoholic liquors.
2. Unusual exposure to extreme weather.
3. Exposure of old persons or persons suffering from other diseases.
4. Living and sleeping in badly ventilated rooms.

To try to avoid it:

1. Do not drink alcoholic liquors.
2. Dress warmly but not too thickly.
3. Do not needlessly expose yourself.
4. Have abundant fresh air in your living and sleeping rooms.
5. Do not have your rooms too hot and then go into the open air unprotected by wraps.
6. If exposed to extreme or rough weather, and wet or numb, undress in a warm room, rub off with a rough towel until the skin glows, then go to bed and stay there several hours.
7. Avoid overeating and keep the bowels open.
8. Keep your feet warm and your head cool.
9. A moderate amount of brisk exercise in the our-door air daily.

2d month.

February.

28 days.

D. of mo.	D. of wk.	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon rises.
			Rises.	Sets.	
1	Sa	The unventilated gas stove is a menace to health.	7 06	5 21	4 04
2	Su	Candelmas. Ground-hog day.	7 06	5 22	5 02
3	M	<i>Squatter Sovereign</i> , Atchison, pro-slavery started, 1855.	7 05	5 23	5 52
4	Tu	Smallpox raging among the "unvaccinated" Kaw Indians, 1860.	7 04	5 24	6 32
5	W	Carrie Nation starts a temperance crusade, 1900	7 03	5 25	sets
6	Th	Act incorporating Lincoln College (Washburn), 1865.	7 02	5 26	5 58
7	Fri	Air your home thoroughly daily.	7 01	5 28	6 58
8	Sa	Fort Leavenworth established, 1874.	7 00	5 29	7 57
9	Su	Inauguration of first governor of state of Kansas, 1861.	6 59	5 30	8 56
10	M	Minneola named as capital of the territory, 1858.	6 58	5 31	9 55
11	Tu	The best nerve restorer—"keeping sweet."	6 57	5 32	10 55
12	W	Abraham Lincoln born, 1809.	6 55	5 34	11 58
13	Th	Food left on teeth ferments and produces decay.	6 54	5 35	morn
14	Fri	St. Valentine's day.	6 53	5 36	1 05
15	Sa	Kansas women granted municipal suffrage, 1887.	6 52	5 37	2 15
16	Su	The best weapon against pneumonia—high body resistance.	6 51	5 38	3 24
17	M	Gov. Lewelling calls out K. N. G. ("Legislative war").	6 49	5 39	4 28
18	Tu	The most valuable asset of a city—wholesome water.	6 48	5 40	5 28
19	W	Temperance crusade reaches Kansas, 1874.	6 47	5 41	6 08
20	Th	Legislature charts the St. Joe & Topeka railroad, 1857.	6 46	5 42	rises
21	Fri	The only bad night air is last night's air.	6 44	5 43	6 42
22	Sa	George Washington born, 1732.	6 43	5 45	7 58
23	Su	Read the labels, or don't complain if you are "stung."	6 41	5 46	9 12
24	M	Have you tested your cow for tuberculosis?	6 40	5 47	10 26
25	Tu	What? 1000 deaths from tuberculosis in Kansas annually?	6 39	5 48	11 39
26	W	Pittsburg Manual Training School established, 1908.	6 37	5 49	morn
27	Th	Wichita county-seat war reaches climax, 1887.	6 36	5 50	0 50
28	Fri	Territorial census completed, 8501 inhabitants, 1855.	6 34	5 51	1 57

MOON'S PHASES.

- New Moon, 6th day, 12h 22m., morning.
- ☾ First Quarter, 14th day, 2h. 34m., morning.
- ☾ Full Moon, 20th day, 8h. 33m., evening.
- ☾ Last Quarter, 27th day, 3h. 15m., evening.

When grown people have "chickenpox," hang out the yellow flag.
The man who says he had rather have smallpox than be vaccinated never had the smallpox.

One large pock on the arm is better than many small pocks on the face.
Ask the man who has pock marks if he was vaccinated before he had the disease.

Measles.

"My children," says the average mother, "have the measles, and I am so glad they are having it now. It is not serious, you know, and they better have it and be over with it." If the mother heard the doctor comparing the measles with smallpox or scarlet fever she would be indignant. If her child had either of these diseases she would be horrified; whereas, if the child has measles she is seldom concerned. As a matter of fact, measles cause nearly three times as many deaths as smallpox and almost as many deaths as scarlet fever.

The danger of measles lies not so much in the disease itself as in the fact that it is extremely infectious and often leads to serious complications. Pneumonia frequently follows it; involvements of the eyes, the ears, the kidneys or the heart are not infrequent. When all the ravages of the disease are reckoned together, its annual toll in the country is dismal.

There is very little reason why any child should be subjected to measles in the hope that it will escape with a "mild case." The best way is to keep the child from the disease and the disease from the child. This is not as difficult as it seems. Sometimes outbreaks occur before the people have warning, but generally a few cases appear, from which, by neglect and carelessness, all the others follow. When measles appear, the parent should keep the child away from children who have the disease, who are recovering from it, or who have been exposed to it. If her own child has the disease, the mother should isolate the child and keep other children from it. If these things be done, there is very little prospect that the disease will make trouble. Prevention is better than cure!

There were sixty deaths from measles in Kansas last year, rather a serious disease, do you not think?

Send for our Bulletin on "Measles." It will cost you nothing and may save you much.

3d month.

March.

31 days.

D. of mo.	D. of week	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon rises.
			Rises.	Sets.	
1	Sa	Legislative act organizing State University, 1884.	6 33	5 52	2 57
2	Su	Worry weakens the will and perverts physical functions.	6 31	5 53	3 40
3	M	Congressional act for road (Santa Fe trail), 1825.	6 30	5 54	4 33
4	Tu	Meeting of Topeka (Free State) legislature, 1856.	6 28	5 55	5 08
5	W	Mercury 106 deg. above zero at Topeka, 1860.	6 27	5 56	5 37
6	Th	Service is the coin that bears inscription of Jehovah.	6 26	5 57	6 03
7	Fri	Act creating State Board of Health approved, 1885.	6 24	5 58	sets
8	Sa	Health is a normal functioning of body, mind and soul.	6 23	5 59	6 49
9	Su	Starling worth, like cream, comes to the top.	6 21	6 00	7 48
10	M	County-seat war in Ruah county, 1888.	6 20	6 01	8 48
11	Tu	Most colds are infectious.	6 18	6 02	9 51
12	W	Arms sent to Howard Co., account county-seat war, 1874.	6 17	6 03	10 56
13	Th	Legislative act providing for uniform textbooks, 1897. ———	6 15	6 04	morn
14	Fri	Reform School for Boys located at Topeka, 1879. ' ———	6 14	6 05	0 04
15	Sa	First salt made at Hutchinson, 1888.	6 12	6 06	1 11
16	Su	Be content—don't fret.	6 10	6 07	2 15
17	M	St. Patrick's day.	6 09	6 08	3 13
18	Tu	Grover Cleveland born, 1837.	6 07	6 09	4 00
19	W	Measles often prepares the soil for consumption.	6 06	6 10	4 38
20	Th	"Exodus" of negroes under "Pap" Singleton arrive, 1879.	6 04	6 11	5 11
21	Fri	First day of spring.	6 02	6 12	5 41
22	Sa	The best spring blood medicine—work!	6 01	6 13	rises
23	Su	Easter.	5 59	6 14	8 02
24	M	Topeka constitution presented in U. S. senate, 1856.	5 58	6 15	9 16
25	Tu	Dr. Simon Flexner born, 1863.	5 56	6 16	10 30
26	W	Henry Ward Beecher lectures in Topeka, 1878.	5 54	6 17	11 42
27	Th	The food of child determines the physical future of citizen.	5 53	6 18	morn
28	Fri	<u>The tubercular dairy cow is a menace to public health.</u>	5 51	6 19	0 47
29	Sa	A thousand armed Missourians enter Kansas and vote, 1855.	5 50	6 20	1 44
30	Su	First legislative election, pro-slavery ticket elected, 1855.	5 48	6 21	2 31
31	M	First locomotive over A. T. & S. F. bridge at Topeka, 1869.	5 47	6 22	3 10

MOON'S PHASES.

- New Moon, 7th day, 6h. 22m., evening.
- ☾ First Quarter, 15th day, 2h. 58m., evening.
- ☾ Full Moon, 22d day, 5h. 56m., morning.
- ☾ Last Quarter, 29th day, 6h. 58m., morning.

Measles in a school is like fire in the tall grass.

If you let the child have measles when he is young, you may save a doctor's bill later on, but you may have to pay the undertaker now.

The child may get well of measles without a doctor—but he may not.

The child who "catches everything" generally carries the burden in after years.

Whooping Cough.

Whooping cough and measles are the most neglected, by both the medical profession and the laity, of all the diseases with which we are acquainted. Health officers usually take small precautions to prevent their spread, and the average parents may not even consult a physician if one of their children is attacked by either of these diseases.

It is believed that whooping cough is spread almost entirely by immediate contact between the patient and a well child. This contact has to be fairly close and intimate. Every mother knows that when one child in the family has whooping cough the rest are almost sure to contract it. It is improbable that it is spread readily in the open air, unless the patient and some one else are so close together that the spray thrown from the mouth of the sick person during the act of coughing will float to the other.

One of the most striking things about whooping cough is that children under five years of age are far more liable to contract it than are those of older years. In a word, the babies are those who must suffer from whooping cough, and those whose lives are laid down in needless sacrifice to it.

While whooping cough is generally considered a trivial disease, it causes every year in the United States nearly or quite as many deaths as scarlet fever, and almost one-half as many deaths as diphtheria. This mortality is due to the complications that follow the disease rather than to the disease itself.

Parents should never voluntarily expose a child to whooping cough in order that it may have the disease while young. If a child does not have whooping cough before five years of age, its chances of taking the disease are greatly reduced. Parents should remember that the chances of death under five years of age are greater, almost fifty to one, than they are over that age.

Parents should protect the young children and keep them from the disease for their own sakes; they should keep the older children from the disease in order that they may not bring it into the home and infect the younger children.

4th month.

April.

30 days.

D. of mo.	D. of wk.	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon rises.
			Rises.	Sets.	
1	Tu	Dr. Wm. Harvey born, 1878. (Disc. circulation of blood.)	5 45	6 23	3 41
2	W	Wichita corn train pictured in <i>Harper's Weekly</i> , 1884.	5 44	6 24	4 08
3	Th	Pony express on first trip to Pacific coast, 1860.	5 42	6 25	4 31
4	Fri	James H. Lane and S. C. Pomeroy, first U. S. senators, 1861.	5 41	6 26	4 51
5	Sa	Mob at Santa Fe depot, Topeka; engineers' strike, 1878.	5 39	6 27	5 12
6	Su	687 Wyandotte Indians locate in Kansas, 1832.	5 38	6 28	sets
7	M	Topeka constitution presented U. S. House of Rep., 1856.	4 36	6 28	7 43
8	Tu	Militia leaves for Santa Fe strike scene at Emporia, 1878.	5 35	6 29	8 49
9	W	(Fort) Scott selected as site for military post, 1842.	5 33	6 30	9 55
10	Th	Court decides Osage lands in favor of settlers, 1876.	5 32	6 31	11 02
11	Fri	In the health of the people lies the strength of the nation.	5 30	6 32	morn
12	Sa	Free State Hotel, Lawrence, completed, 1856.	5 29	6 33	0 08
13	Su	Henry J. Adams elected first mayor of Leavenworth, 1857.	5 27	6 34	1 06
14	M	President Lincoln shot at Ford's theater.	5 26	6 35	1 55
15	Tu	President Lincoln dies.	5 25	6 36	2 36
16	W	Sound national physique better than sound national finance.	5 23	6 37	3 11
17	Th	The typhoid fly is a menace to public health.	5 22	6 38	3 40
18	Fri	Union men tear rebel flag from steamer "Sam Gaty," 1861.	5 20	6 39	4 06
19	Sa	Polluted well water cannot be purified by painting pump.	5 19	6 40	4 33
20	Su	It takes sixteen ounces to make a pound in Kansas.	5 18	6 41	rises
21	M	Daily mail runs between Topeka and Pike's Peak, 1868.	5 16	6 42	8 04
22	Tu	U. S. Census gives Kansas a population of 1,696,361.	5 15	6 42	9 20
23	W	First celebration of Arbor day in Kansas, 1875.	5 13	6 43	10 29
24	Th	First rails produced in the Topeka rolling mills, 1874.	5 12	6 44	11 31
25	Fri	The fly the disseminator of Dirt, Diarrhea and Disease.	5 11	6 45	morn
26	Sa	Emigrant Aid Society incorporated by Massachusetts, 1854.	5 10	6 46	0 24
27	Su	First enlistments for Twentieth Kansas regiment, 1898.	5 08	6 47	1 06
28	M	Free-state convention, Topeka, nominates officers, 1858.	5 07	6 48	1 41
29	Tu	Revs. Schoenmachers, Bax and Ponziglione at Osage, 1847.	5 06	6 49	2 10
30	W	Rev. Pardee Butler mobbed by proslavery men, 1856.	5 05	6 50	2 34

MOON'S PHASES.

- New moon, 6th day, 11h. 48m., evening.
- ☾ First quarter, 14th day, 11h. 39m., morning.
- ☾ Full moon, 28th day, 3h. 33m., evening.
- ☾ Last quarter, 28th day, 0h. 9m., morning.

Air your home thoroughly daily.

Whooping cough is highly contagious.

Whooping cough in children is a "grave" disease.

The parent who doesn't care "two whoops" whether his child has whooping cough or not will later have those "two whoops" multiplied a thousand fold.

Good Wells and Good Water Make for Good Health.

May and April are the spring-cleaning months, and should serve to repair the well as much as to dust the carpets. Nothing on the farm is more important or more valuable than pure water. Bad or impure water is more dangerous than the deadliest poison, and always affects those who drink it.

Wells are polluted by organic matter getting into them. This matter comes from human beings or from animals, and is always bad for those who drink it. If it comes from a case of typhoid, or from a person who carries typhoid germs, and gets into the well, it will produce typhoid fever in those who drink it. This matter gets into the well usually through cracks in the top of the well, through soiling the bucket by touching it with dirty hands or setting it on a dirty floor, or through holes in the top of the well.

To be sure that the well is good and that dangerous material is kept out, the following things must be true:

1. The well must be not less than 15 feet deep. As a general proposition, the deeper the better.

2. The top must be sound and tight so that no water which falls on it can drip back into the well.

3. The well should be provided with a pump or with a bucket which empties itself and does not have to be touched. The double bucket is always dangerous.

4. The ground immediately around the well should be sloped up to the well and banked with clay or covered with cement, so that all water spilled around the well will run off and not trickle back.

5. The well should be cased with brick or with a terra cotta pipe and the space back of the casing filled with sand.

6. A spring in a limestone county can not be so protected as to make it perfectly sure that it does not come from underground streams at a place far from the well.

7. The spring should be so protected that water can not wash into it from the hillside above or from the platform below. This is best done by cementing or stoning the curbing at least a foot above the ground all around and putting in a pipe for the overflow. All water should then be drawn from the overflow pipe, and not by dipping buckets or dippers.

6th month.

May.

31 days.

D. of mo.	D. of wk.	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon rises.
			Rises.	Sets.	
1	Th	Prohibitory law takes effect, 1881.	5 04	6 51	2 55
2	Fri	Organization of first Indian regiment begun.	5 02	6 52	3 16
3	Sa	Lecompton Union started by Jones & Faris, 1858.	5 01	6 53	3 37
4	Su	Bender murders discovered, 1874.	5 00	6 54	3 57
5	M	Charles Robinson and A. H. Reeder indicted, 1856.	4 59	6 55	4 21
6	Tu	Treaty with the Cherokee Indians, 1828.	4 58	6 56	sets
7	W	Gov. A. H. Reeder escapes disguised, 1856.	4 57	6 56	8 54
8	Th	Act of Congress for removal of Kaw Indians, 1872.	4 56	6 57	10 00
9	Fri	John Brown born, Torrington, Conn., 1800.	4 55	6 58	11 01
10	Sa	Father Schoenmachers opened school for Indian boys, 1847.	4 54	6 59	11 54
11	Su	Henry M. Stanley, African explorer, in Kansas, 1867.	4 53	7 00	morn
12	M	Emigrant Aid Co., Boston, organized, 1854.	4 52	7 01	0 37
13	Tu	Dr. Donald Ross, discoverer of cause of malaria, born.	4 51	7 02	1 12
14	W	Vaccination first tried, 1796.	4 50	7 03	1 41
15	Th	Waterspout northwest Elk City, 11 people drowned, 1886	4 49	7 04	2 07
16	Fri	First train to Topeka from Atchison on Santa Fe, 1872.	4 48	7 05	2 33
17	Sa	William Phillips, Leavenworth, tarred and feathered, 1856.	4 47	7 05	3 00
18	Su	Republican party organized at Osawatomie, 1859.	4 46	7 06	3 27
19	M	Marais des Cygnes massacre, 1858.	4 45	7 07	3 57
20	Tu	Passage of homestead law, ch. 75, U. S. Statutes, 1832.	4 44	7 08	rises
21	W	Sacking of Lawrence by border ruffians, 1856.	4 44	7 09	9 16
22	Th	Dr. Brown and Calus Jenkins arrested for treason, 1856.	4 43	7 09	10 13
23	Fri	Swat the fly.	4 43	7 10	11 01
24	Sa	Five proslavery men killed by party under John Brown, 1856.	4 42	7 11	11 39
25	Su	First Kansas Decoration day proclamation, 1871.	4 41	7 12	morn
26	M	From flies and filth to food and fever.	4 41	7 13	0 10
27	Tu	Destructive floods in valleys of Kansas rivers, 1903.	4 40	7 13	0 36
28	W	Laying of first rail on Lawrence & Topeka railroad, 1872.	4 40	7 14	0 58
29	Th	Eugene F. Ware (Ironquill), born 1841; died July 1, 1911.	4 39	7 15	1 20
30	Fri	Kansas-Nebraska bill, 1854.	4 39	7 16	1 40
31	Sa	Indian raid on Saline, 1869.	4 38	7 17	2 00

MOON'S PHASES.

- New Moon, 6th day, 2h. 24m., morning.
- ☾ First Quarter, 13th day, 5h. 45m., morning.
- ☾ Full Moon, 20th day, 1h. 18m., morning.
- ☾ Last Quarter, 27th day, 6h. 4m., evening.

A dirty well is more dangerous than a dirty kitchen.
 Many a "pretty" spring has caused a dismal funeral.
 If your roof and your well both leak, fix the well first.
 A good iron pump costs less than a case of typhoid.
 Good water is one of the best insurance policies a family can carry.
 The time to fix your well is before you have to send for a doctor.

Infants' Complaints.

The first warm days in June bring a burden of apprehension to young mothers. The babies, who have thrived during the winter and spring, show the effects of the changed season. They grow pale; they become restless; their digestion is feeble. Every mother wonders, as she looks at her child, whether or not it will survive the warm months of summer.

No mother can get a positive answer to this question; but every mother can be assured that if she is careful of her child and mindful of a few essentials, she can give her child nine chances of living to one of dying. The most important thing to do is to watch the baby's food. If the child is breast-fed and the mother is careful in her personal habits, there is comparatively small danger. If the baby is bottle-fed, there is much greater danger of sickness, but this can be minimized by a few simple precautions. These are the things to do:

1. See that the baby gets fresh and pure milk.
2. See that the milk never sours nor gets heated before being delivered to you.
3. See that the milk is kept cool after you get it.
4. See that the milk and nursing bottles are boiled as often as used
5. See that everything used in preparing the milk is kept clean.
6. See that flies are kept away from the baby and the baby's bottles.
7. See that a physician examines your baby, prescribes its food and directs its treatment whenever the child is sick.
8. Keep the baby out of doors in the fresh air as much as possible.
9. Feed the baby regularly and not every time it cries or frets.
10. Give the baby water to drink at such times and amounts as the season and age of the baby require.

The State Department of Health has issued for free distribution a pamphlet on the "Care of Babies." Send for it to-day.

6th month.

June.

30 days.

D. of mo.	D. of wk.	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon rises.
			Rises.	Sets.	
1	Su	Grasshoppers begin to fly, 1875.	4 38	7 17	2 23
2	M	Battle of Black Jack, 1866.	4 37	7 18	2 49
3	Tu	God bless the man who first invented screens.	4 37	7 19	3 20
4	W	First Kansas regiment, Civil War, organized, 1861.	4 37	7 20	sets
5	Th	U. S. gives Pottawatomie Indians 576,000 acres of land, 1846.	4 37	7 20	8 53
6	Fr	Grasshoppers swarm at Topeka, 1875.	4 36	7 21	9 49
7	Sa	Osawatomie sacked by Missourians, 1856.	4 36	7 21	10 35
8	Su	DeBourmont crossed Missouri river into Kansas, 1724.	4 36	7 22	11 14
9	M	The manure heap is chief breeding place for flies.	4 36	7 22	11 45
10	Tu	John C. Fremont left Kansas for Rocky Mountains, 1842.	4 36	7 23	morn
11	W	Nice, clean fly! born and bred in the privy vault! Ugh!	4 35	7 23	0 12
12	Th	Marais des Cygnes flood drives Indians from homes, 1844.	4 35	7 24	0 37
13	Fr	Ground broken at Atchison for Santa Fe railroad, 1860.	4 35	7 24	1 02
14	Sa	Villazur expedition left Santa Fe, N. M., 1720.	4 35	7 24	1 28
15	Su	Leavenworth <i>Inquirer</i> suppressed by Gen. J. G. Blunt.	4 35	7 25	1 57
16	M	Steamer "Excel" starts on second trip to Fort Riley, 1854.	4 35	7 25	2 31
17	Tu	Osage Indians raid Barber and Comanche counties, 1874.	4 35	7 26	3 11
18	W	Plan for a sane Fourth of July.	4 35	7 26	rises
19	Th	James F. Legate <i>et al.</i> arrested, charged with treason, 1856.	4 35	7 26	8 53
20	Fri	Second Kansas regiment organized at Lawrence, 1861.	4 35	7 26	9 35
21	Sa	First day of summer.	4 36	7 27	10 08
22	Su	Fort Hays established, 1867.	4 36	7 27	10 37
23	M	A 160-lb. catfish caught in Kansas river at Topeka, 1859.	4 36	7 27	11 01
24	Tu	A sane Fourth saves lives.	4 36	7 27	11 23
25	W	Gen. Custer and command killed on Little Big Horn, 1876.	4 37	7 27	11 44
26	Th	Work begun on Leavenworth & Lawrence railroad, 1865.	4 37	7 28	morn
27	Fri	First enlistments for 23d Kansas (Colored) infantry, 1898.	4 38	7 28	0 03
28	Sa	Tetanus antitoxin is available from State Board of Health.	4 38	7 28	0 24
29	Su	Dan'l Woodson, of Virginia, first territorial secretary, 1854.	4 38	7 28	0 48
30	M	Territory of Missouri divided ("Indian Territory"), 1884.	4 39	7 28	1 16

MOON'S PHASES.

- New Moon, 4th day, 1h. 57m., evening.
- ☾ First Quarter, 11th day, 10h. 37m., morning.
- ☾ Full Moon, 18th day, 11h. 54m., evening.
- ☾ Last Quarter, 26th day, 11h. 41m., evening.

Two dollars for a doctor is cheaper than \$100 for a funeral.
It takes time to boil a baby's bottles, but it saves much sorrow and many sleepless nights.

Flies in the kitchen is as dangerous as Rough-on-Rats in the pantry.

If your milkman brings you warm milk, make it hot for him.

The dairyman who adulterates his milk should be sent to jail.

Flies and Mosquitoes.

By July the fly and mosquito season is at its height. The flies seem to come from everywhere and go everywhere. They fall into the boiling-pot; they crawl over the butter; they make their toilet on the vegetable dish; they take their bath in the milk; they rest on the edge of the drinking cup; they are the worst nuisance of the entire summer season. Worst of all, they carry the germs of many diseases, and play a great part in the spread of typhoid fever and probably tuberculosis.

The only good fly is a dead fly; the best fly is the fly that never was born. No man can absolutely prevent the breeding of flies, but every man who will take the trouble can greatly reduce their breeding. Animal and vegetable refuse is the nest of the fly. Bury this, cart it away, burn it or otherwise keep it from the fly and you will greatly reduce the nuisance and danger of flies.

To keep flies from the house, screen the windows and doors and kill the flies that find entrance. If you do not want to buy fly-paper, make it yourself by boiling two pounds of resin in one pint of castor oil until dissolved; spread this on heavy paper and use as needed.

The following is a good formula for making the formaldehyde fly poison: Formaldehyde (formalin) two teaspoonfuls, water one pint. Mix. Pour in a shallow plate and put a piece of bread in the middle of the plate; it furnishes a place for the flies to light on and feed. It must be kept out of reach of children, as it is poisonous.

Mosquitoes, unlike flies, breed only in stagnant water, but they are as great a nuisance as flies in some localities, and, in addition, spread malaria. If you keep water from standing around the premises, if you drain or fill pools of stagnant water, if your cistern or rain barrel is mosquito proof, if you will not permit old cans and bottles around the premises to catch rain water, you will have little trouble with mosquitoes.

7th month.

July.

31 days.

D. of mo.	D. of wk.	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon rises.
			Rises.	Sets.	
1	Tu	J. M. Armstrong opens first free school, 1844.	4 39	7 28	1 52
2	W	Legislature met at Pawnee, 1855.	4 40	7 28	2 36
3	Th	Patriotism does not consist of noise!	4 40	7 28	3 32
4	Fri	First celebrated in Kansas by Lewis and Clark, 1804.	4 41	7 28	sets
5	Sa	Send for tetanus antitoxin.	4 41	7 28	9 11
6	Su	Take antityphoid inoculation.	4 42	7 27	9 45
7	M	A. J. Reeder, first governor of Kansas territory, 1854.	4 42	7 27	10 14
8	Tu	M. DeBourmont began explorations in Kansas, 1724.	4 43	7 27	10 41
9	W	Kansas Aid Committee met at Buffalo, N. Y., 1856.	4 44	7 27	11 06
10	Th	First enlistments for Colored Kansas battery, 1864.	4 44	7 26	11 31
11	Fri	Eat lightly and drink cool water in hot weather.	4 45	7 26	11 59
12	Sa	Humboldt sacked by rebels; burned October 16, 1861.	4 45	7 25	morn
13	Su	The city dump is a city disgrace.	4 46	7 25	0 31
14	M	F. S. & W. railroad completed to Wichita, 1883	4 47	7 24	1 08
15	Tu	Third Kansas regiment organized, 1861	4 48	7 24	1 53
16	W	Grant, Sherman and Sheridan met at Leavenworth, 1861.	4 48	7 23	2 46
17	Th	Petroleum in Miami and Bourbon counties, 1865.	4 49	7 23	3 46
18	Fri	First overland coach arrives from the Pacific, 1861.	4 50	7 22	rises
19	Sa	E. G. Ross appointed U. S. Sen. by Gov. Crawford, 1866.	4 51	7 21	8 39
20	Su	Keep your head cool and you heart warm.	4 52	7 21	9 03
21	M	Mrs. J. H. Lane died; burial Lawrence, July 24, 1883.	4 52	7 20	9 26
22	Tu	Ex-Governor Osborn minister to Chili, 1881.	4 53	7 20	9 47
23	W	Patronize the clean grocer.	4 54	7 19	10 06
24	Th	First Kansas battery organized, 1861.	4 55	7 18	10 27
25	Fri	Peace with the Cheyennes and Arapahoes concluded, 1825.	4 56	7 17	10 49
26	Sa	Wm. Walker appointed provisional governor, 1853.	4 56	7 17	11 14
27	Su	"Smuggler," a Kansas horse, makes a mile in 2:16 $\frac{1}{4}$, 1876.	4 57	7 16	11 46
28	M	Emigrant Aid settlers arrive at mouth of Kaw, 1854.	4 58	7 15	morn
29	Tu	Wyandotte const. adopted, 1859. Kansas made a state, 1861.	4 57	7 14	0 25
30	W	The manure heap is the season's greatest danger.	5 00	7 13	1 15
31	Th	If you can not work outdoors, sleep outdoors.	5 00	7 12	2 17

MOON'S PHASES.

- New Moon, 4th day 11h. 6m., morning.
- ☾ First Quarter, 10th day, 3h. 37m., evening.
- ☾ Full Moon, 18th day, 1h. 5m., morning.
- ☾ Last Quarter, 26th day, 3h. 59m., morning.

For the seventh season we remark—SWAT THE FLY.

A fly in the milk means a member of the family in the grave.

Wire screens in the windows keep crape from the door.

Keep flies from the house and you may keep the doctor from the gate.

The wise mother screens the baby's cradle, and wears a smile; the foolish mother does not, and may wear mourning.

Typhoid Fever.

This is typhoid time. Every summer typhoid fever appears in many counties of Kansas, and before the end of the summer about 4500 people have the disease, and 401 of them die of it.

Typhoid fever is caused, like many other diseases, by a small germ which gets into the mouth from our fingers or on something we eat or drink, and which grows in the body and causes the disease.

1. To prevent typhoid fever at home get the well in shape. A good well must have a sound, tight top and a pump or an automatic bucket. A well with a leaky top or holes around the sides, or with a bucket which is touched with dirty hands and then goes into the well, is likely to give rise to typhoid fever.

2. Get the closet in shape. The discharge from human beings constitutes the most dangerous material on the farm in the summer time. It should be cared for as carefully as if it were a deadly poison. A good closet is the most important thing on the farm in the summer. A good closet should keep the material dry, off the ground, away from flies, and should be cleaned as often as necessary. The material should be carried away and buried.

3. Flies carry typhoid fever germs on their feet. They are dirty and filthy insects and spread diseases. Screen them out of the kitchen, catch or kill those that get in, and keep them away from the food, especially the milk.

To avoid typhoid fever yourself: *First*, wash the hands before eating anything, and do not put them into the mouth. *Second*, do not drink any water that you do not know comes from a good well, unless it has been boiled just before drinking. *Third*, do not drink milk, unless you know where it comes from, and know that it has been carefully looked after in a place where there is no typhoid fever. *Fourth*, if you are in a strange place, do not eat anything unless it has recently been boiled or otherwise heated through and through.

The State Board of Health will send you their pamphlet on "Typhoid Fever" for the asking.

8th month.

August.

31 days.

D. of mo.	D. of wk.	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon rises.
			Rises.	Sets.	
1	Fri	U. S. troops leave Leavenworth to subdue Mormons, 1857.	5 01	7 11	3 29
2	Sa	Col. S. N. Goss gives ornithological collection, 1882.	5 02	7 10	sets
3	Su	Recruiting begun by 1st Kan. Colored Inf., 1862.	5 03	7 09	8 14
4	M	Forget not the cat when house is closed for the summer.	5 04	7 08	8 42
5	Tu	Free-state men take a fort at Osawatomie, 1856.	5 04	7 07	9 09
6	W	A good housekeeper's house is free from flies.	5 05	7 06	9 34
7	Th	General Miles organizes expedition against Indians, 1874.	5 06	7 05	10 01
8	Fri	Legislature selects Leecompton as capital of territory, 1855.	5 07	7 04	10 31
9	Sa	Teach the children to swim.	5 08	7 03	11 08
10	Su	Battle of Wilson's creek, Missouri; Kansas took part in, 1861.	5 09	7 01	11 51
11	M	Fight the mosquito by destroying its breeding place.	5 10	7 00	morn
12	Tu	Free-state men attack and capture Franklin, 1856.	5 11	6 59	0 41
13	W	Governor Harvey receives Price raid money, 1872.	5 12	6 58	1 38
14	Th	Free-state convention assembled at Lawrence, 1855.	5 13	6 57	2 40
15	Fri	S. C. Pomeroy sends message over new telegraph line, 1869.	5 18	6 55	3 45
16	Sa	Lawrence men capture Fort Titus and twenty men, 1856.	6 14	6 54	rises
17	Su	Death of ex-Gov. Chas. Robinson, Lawrence, 1894.	5 15	6 53	7 30
18	M	General Sully pursues Indians in Solomon valley, 1868.	5 16	6 52	7 50
19	Tu	Murder of Hopps, free-state, by Pugit, proslavery, 1856.	5 17	6 50	8 11
20	W	General Sheridan ordered to Kansas, 1867.	5 17	6 49	8 31
21	Th	Isaac McCoy starts from St. Louis to explore Kansas, 1828.	5 19	6 47	8 53
22	Fri	Quantill raid on Lawrence; 143 killed; 80 wounded; 1863.	5 20	6 46	9 17
23	Sa	John Brown leaves Chicago for Kansas, 1856.	5 21	6 45	9 44
24	Su	Martin and Crawford Centennial commissioners, 1871.	5 22	6 43	10 20
25	M	Governor Shannon declares territory in insurrection, 1856.	5 22	6 42	11 04
26	Tu	John Calhoun appointed surveyor general of Kansas, 1854.	5 23	6 40	11 59
27	W	New Orleans favors making Kansas a slave state, 1856.	5 24	6 39	morn
28	Th	Eighth Kansas infantry organization begun, 1861.	5 25	6 38	1 04
29	Fr	Susan B. Anthony starts for Kansas, 1867.	5 26	6 36	2 19
30	Sa	Battle of Osawatomie, 1856. John Brown monument, 1877.	5 27	6 35	3 39
31	Su	Get the children ready for school.	5 28	6 33	sets

MOON'S PHASES.

- New Moon, 2d day, 6h. 58m., morning.
- ☾ First Quarter, 8th day, 10h. 3m., evening.
- ☾ Full Moon, 16th day, 2h. 28m., evening.
- ☾ Last Quarter, 24th day, 6h. 18m., evening.
- New Moon, 31st day, 10h. 38m., evening.

If some people were as much afraid of flies as they are of bad water, there would be less typhoid.

Good water is more to be prized than rubies, and clean hands are better than much fine gold.

The fly has small feet, but can carry a million typhoid germs.

Diphtheria.

Every September cases of diphtheria begin to appear, and by October the disease is near its height. Diphtheria is caused by a small germ which gets into the throat, grows and multiplies there, and produces a poison which gives rise to the symptoms of the disease. These germs may remain in the throats of persons who have the disease for some weeks after all other signs of the disease have disappeared. Such persons are dangerous during this time.

To keep your children from having diphtheria:

1. Give each child a drinking cup to take to school, and teach him never to drink from a cup which is used by others.

2. Teach the child not to use trifles, such as pencils, toys, and the like, which have been put into the mouths of other children.

3. Keep your children at home when there is diphtheria in the neighborhood. Do not let them kiss other children, and above all do not let them play with children from homes where there is diphtheria or with children who have sore throats, whether it is diphtheria or not.

4. See that your health officer quarantines all cases of diphtheria promptly and keeps the children in the family where there is diphtheria from coming into the streets or mingling with other children.

DIPHTHERIA ANTITOXIN.

The most perfect and certain remedy which has ever been devised by medical science is diphtheria antitoxin. It destroys absolutely the poison generated by the diphtheria germ. It does not injure the heart. Children with diphtheria frequently die of heart disease because the poison of diphtheria attacks the heart early in the disease. Diphtheria antitoxin does not attack the heart, but destroys this poison, and if given early enough prevents the heart from being damaged.

If your child has diphtheria, or if you think it has diphtheria and the doctor is not sure, have him give antitoxin at once. One small dose of antitoxin early in the disease will cure in almost all cases, but if you wait three or four days even the largest doses may not do any good.

Send for our pamphlet on Prevention of Diphtheria.

9th month.

September.

30 days.

D. of mo.	D. of wk.	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon sets.
			Rises.	Sets.	
1	M	Wm. Phillips, Free-state, killed, Leavenworth election, '56.	5 29	6 32	7 07
2	Tu	Battle of Dry Wood, 1861. Labor day.	5 30	6 30	7 35
3	W	Platte river bridge massacre, Missouri, 1861.	5 31	6 29	8 02
4	Th	The oyster season; they are unwatered in Kansas.	5 31	6 27	8 32
5	Fri	Free-state convention and Free-state party organized, 1855.	5 32	6 26	9 07
6	Sa	Fort Zarah established, 1864.	5 33	6 24	9 48
7	Su	Commissions to officers of Arapahoe county, 1855.	5 34	6 22	10 37
8	M	Rich discoveries of lead near Baxter Springs, 1873.	5 35	6 21	11 32
9	Tu	Sixth Kansas organized at Fort Scott, 1861.	5 35	6 19	morn
10	W	Second Kansas battery organization begun, 1862.	5 36	6 18	0 33
11	Th	First successful Topeka biplane, by A. K. Longren, 1911.	5 37	6 16	1 37
12	Fri	Humboldt sacked by rebels, 1861.	5 38	6 14	2 40
13	Sa	Battle of Hickory Point, 1856.	5 39	6 13	3 42
14	Su	Gov. Crawford calls for troops for Indian warfare, 1868.	5 40	6 11	4 43
15	M	First Kansas paper published, Leavenworth <i>Herald</i> , 1854.	5 41	6 10	rises
16	Tu	Third Indian regiment organized, 1862.	5 42	6 08	6 36
17	W	Battle of Arickaree, 51 scouts vs. 500 Indians, 1868.	5 43	6 06	6 57
18	Th	Legal hanging at Seneca, 1868.	5 44	6 05	7 19
19	Fri	D. M. Boone, appointed farmer for Kansas Indians, 1827.	5 44	6 03	7 46
20	Sa	John Brown song first sung at Leavenworth, 1861.	5 45	6 02	8 19
21	Su	The best guide to dress is the weather.	5 46	6 00	8 58
22	M	Financial panic, 1873.	5 47	5 58	9 47
23	Tu	First day of autumn.	5 48	5 57	10 47
24	W	Delaware Indians given land in France, 1822.	5 49	5 55	11 56
25	Th	Twelfth Kansas infantry mustered in at Paola, 1862.	5 50	5 54	morn
26	Fri	Leavenworth chosen site for National Military Home, 1884.	5 51	5 52	1 11
27	Sa	Pres. Taft lays corner stone of Memorial Building, 1911.	5 52	5 50	2 29
28	Su	William H. Seward given reception at Atchison, 1860.	5 53	5 49	3 47
29	M	Lieut. Z. M. Pike raises U. S. flag at Pawnee, 1806.	5 53	5 47	5 04
30	Tu	Cheyenne Indian massacre, Decatur county, 1878.	5 54	5 46	sets

MOON'S PHASES.

- ☾ First Quarter, 7th day, 7h. 6m., morning.
- ☾ Full Moon, 15th day, 6h. 46m., morning.
- ☾ Last Quarter, 23rd day, 6h. 30m., morning.
- New Moon, 29th day, 10h. 57m., evening.

Giving antitoxin is as certain in its results as pouring water on a fire, and it is just as important to do it early.

A syringe of antitoxin is more efficacious in a case of diphtheria than a month of nursing.

The rusty tin cup and the wooden bucket in the schoolroom are convenient, but they are dangerous.

Scarlet Fever.

Scarlet fever is a most dangerous and peculiar disease, about which our knowledge is far from complete. It is spread from one person to another most probably by the discharges from the nose and throat of a case, and possibly by the scales from the skin of a child recovering from the disease.

The prominent symptoms of scarlet fever are :

Fever, sore throat, vomiting and a peculiar red rash on the skin. Where scarlet fever is prevailing, many children have the disease who have no symptoms except the sore throat and a slight fever. These are very apt to spread the disease, as they are not recognized as having scarlet fever.

To protect children from scarlet fever :

1. Do not let them use a common drinking cup anywhere at any time. Carry a cup or a glass of your own when you are traveling. Make the child carry a cup to school, if the school is not provided with a sanitary drinking fountain.

2. Try to teach the child not to kiss other children on the mouth, and not to put pencils, toys and the like into the mouth.

3. Keep your children at home when there is scarlet fever in the neighborhood, and do not let them play at any time with children from houses where there is scarlet fever or with children who have sore throats or who have recently had sore throats. If your child has a sore throat and a rash on the body, put him in a separate room away from the other children until the doctor comes and decides what the trouble is. Keep the children with sore throats away from the other children as far as possible. If your child has scarlet fever in spite of these precautions, obey exactly what the doctor says about keeping the child in bed and about quarantine.

When in doubt, ask your doctor.

Write for the Health Department Bulletin on "Scarlet Fever." They are free.

10th month.

October.

31 days.

D. of mo.	D. of wk.	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon sets.
			Rises.	Sets.	
1	W	Spain cedes Louisiana to France, 1800.	5 55	5 44	6 27
2	Th	General Curtis receives news of Price's raid, 1864.	5 56	5 43	7 02
3	Fri	D. Lecompte, first chief justice of Kansas Ter., 1854.	5 57	5 41	7 42
4	Sa	Kan. Asso. for Study and Prevention of Tuberculosis, 1908.	5 58	5 40	8 28
5	Su	Mother Hayden arrives at Osage Mission, 1847.	5 59	5 38	9 24
6	M	Oxford, Johnson Co., cast 1828 illegal proslavery votes, 1857.	6 00	5 37	10 25
7	Tu	Kansas wagon gets first medal Centennial Exposition, 1876.	6 01	5 35	11 29
8	W	Militia called out to repel Price's invasion, 1864.	6 02	5 34	morn
9	Th	First sale of town lots, Leavenworth, 1854.	6 03	5 32	0 33
10	Fri	Washington Irving at Fort Gibson, Indian Territory, 1852.	6 04	5 31	1 35
11	Sa	Gov. Crawford called for troops, Nineteenth Kansas, 1868.	6 05	5 29	2 35
12	Su	P. B. Plumb born, 1837; U. S. senator 1877-1891.	6 06	5 28	3 35
13	M	Indians in Solomon valley, 4 killed, 2 captured, 1868.	6 07	5 26	4 33
14	Tu	Treaty with Arapahoos and Cheyennes, 1865.	6 08	5 25	5 32
15	W	Fifteenth Kansas Cavalry organized, 1863.	6 09	5 23	rises
16	Th	Custer leaves Leavenworth to command Fort Riley, 1866.	6 10	5 22	5 50
17	Fri	Corner stone of state capitol, Topeka, laid, 1866.	6 11	5 21	6 21
18	Sa	Gen. Sherman at Leavenworth, public reception, 1865.	6 12	5 19	6 58
19	Su	Gov. Walker rejects election returns from Oxford, 1857.	6 13	5 18	7 44
20	M	Terrible prairie fire in Butler county, 1872.	6 14	5 16	8 39
21	Tu	Kansas <i>Herald of Freedom</i> , by O. W. Brown & Co., 1854.	6 15	5 15	9 44
22	W	Battle of the Blue, 1864.	6 16	5 14	10 54
23	Th	Topeka constitutional convention meets, 1855.	6 17	5 12	morn
24	Fri	Kickapoo receive lands in eastern Kansas, 1832.	6 18	5 11	0 08
25	Sa	Cool weather does not call for closed windows.	6 19	5 09	1 23
26	Su	Monument to Father Padilla dedicated at Herington, 1904.	6 20	5 08	2 38
27	M	Theodore Roosevelt born, 1858.	6 21	5 07	3 52
28	Tu	Arapahoe and Cheyenne Indians located in Ind. Ter., 1867.	6 22	5 06	5 08
29	W	Gov. Walker threatened account election proceedings, 18 7.	6 23	5 04	sets
30	Th	Settlers driven from Mine Creek, Linn county, 1861.	6 24	5 03	5 32
31	Fri	Pres. Johnson accepts 40 miles of Kan. Pac. Rld., 1865.	6 25	5 02	6 16

MOON'S PHASES.

- ☾ First Quarter, 6th day, 7h. 46m., evening.
- ☾ Full Moon, 15th day, 0h. 7m., morning.
- ☾ Last Quarter, 22d day, 4h. 53m., evening.
- New Moon, 29th day, 8h. 29m., morning.

It is sometimes difficult to protect a child from scarlet fever, but it is easier than to see a child made deaf for life.

If the child shows the rash of scarlet fever, do not persuade yourself it has chickenpox. Send for the doctor.

A neighbor may send your baby a basket of toys; but if there has been scarlet fever in that family, put the stuff in the fire.

Colds and Influenza.

The changing weather and chill winds of November bring a crop of colds all over Kansas. Few are exempt; some suffer for a few days; some are unwell for weeks; some contract permanent lung troubles and bronchitis. Comparatively few colds lead to consumption, but as every cold weakens the system and makes the person more liable to other diseases, and particularly to consumption, every cold should be closely watched.

There is no infallible rule by which colds can be prevented, and there is no law by which every one can protect himself from the germs which cause influenza. Common sense is the best protection. A little forethought is the best ally of common sense.

Draughts, overheated, unventilated rooms, unsuitable clothing and senseless exposure are the chief causes of colds. Care for these things greatly reduces the danger of colds. The man who sits in a draught, for instance, and exposes one part of his body in this way, may expect a cold. On the other hand, the man who is so much afraid of draughts that he lives in a close or stuffy room, may expect to contract a cold when he goes into the open air. The open window which does not create a draught is the secret of proper precaution. Never stay in a close room, but never so ventilate a room that you create a draught where you are sitting.

Unsuitable clothing is also to be avoided. The man who puts on his flannels in November and resolves not to take them off, except for a change, until the spring, unconsciously determines that he will have colds. Regulate your clothing according to the weather; in warm spells, reduce your clothing; in cold snaps, increase it. When you leave a heated room to go into the open air, protect your body by additional clothing; or, if you do not care to wear an overcoat, reduce your clothing when you enter a warm place. A little foresight is better than a spell of sickness.

Keep your head cool and your feet warm!

11th month.

November.

30 days.

D. of mo.	Day of week.	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon sets.
			Rises.	Sets.	
1	Sa	Natural gas for manufacturing first used at Iola, 1896.	6 26	5 01	7 10
2	Su	France cedes Louisiana to Spain, 1762.	6 27	5 00	8 10
3	M	U. P. Rld. Co., Southern branch, organized Emporia, 1865.	6 29	4 59	9 14
4	Tu	Gov. Crawford resigns to command 19th Kan. cav., 1868.	6 30	4 58	10 20
5	W	First paper in Ellis county, Hays City <i>Advance</i> , 1867.	6 31	4 57	11 24
6	Th	The cost of food bears no relation to its nutritive value.	6 32	4 56	morn
7	Fri	Treaty locating Shawnees in eastern Kansas, 1825.	6 33	4 55	0 26
8	Sa	L. D. Lewelling, "first People's party gov.," elected, 1892.	6 34	4 54	1 26
9	Su	Not what you eat but what you digest nourishes you.	6 35	4 53	2 24
10	M	Proclamation for election of delegates to Congress, 1854.	6 36	4 52	3 22
11	Tu	Geary says "Peace prevails throughout the territory," 1856.	6 37	4 51	4 21
12	W	Miss Clough, of Leav., first woman notary in Kansas, 1871.	6 38	4 50	5 23
13	Th	One-third of the sickness and deaths are preventable.	6 40	4 49	6 26
14	Fri	Organization of Law and Order party, Leavenworth, 1855.	6 41	4 48	rises
15	Sa	Telegraph completed to Topeka, 1865.	6 42	4 47	5 42
16	Su	Humboldt's first paper started by Joseph Bond, 1864.	6 43	4 46	6 34
17	M	First Kansas aeroplane, trial by H. L. Call, Pittsburg, 1908.	6 44	4 46	7 36
18	Tu	The lure of the red light is a decoy for the red plague.	6 45	4 45	8 45
19	W	Samuel Medary appointed governor of Kansas Ter., 1858.	6 46	4 45	9 57
20	Th	First Thanksgiving day in Kansas, 1856.	6 47	4 44	11 10
21	Fri	Uncemented cesspools menace of underground waters.	6 48	4 43	morn
22	Sa	Avoid consumption cures—they never cure.	6 49	4 43	0 23
23	Su	First report of vital statistics issued, 1911.	6 51	4 42	1 35
24	M	Executive offices removed to Shawnee Mission, 1854.	6 52	4 42	2 47
25	Tu	The wages of filth is disease.	6 53	4 41	4 02
26	W	Delaware Baptist mission located by Doctor Lykins, 1832.	6 54	4 41	5 18
27	Th	Thanksgiving.	6 55	4 40	6 35
28	Fri	First excursion, Kan. Pac., Wyandotte to Lawrence, 1864.	6 56	4 40	sets
29	Sa	First election of delegates to Congress, 1854.	6 57	4 39	5 53
30	Su	Battle of Franklin, Tenn., Eighth Kan. participated, 1864.	6 58	4 39	6 56

MOON'S PHASES.

☾ First Quarter, 5th day, 0h. 34m., evening.

☾ Full Moon, 13th day, 5h. 11m., evening.

☾ Last Quarter, 21st day, 3d. 56m., morning.

● New Moon, 27th day, 7h. 41m., evening.

A light overcoat is better than a heavy cold.

Many a cough ends in a coffin.

A stuffy room is the germ's best ally.

A little ventilation is more effective than much quinine.

"Catching cold" is an accurate expression, because most colds are "catching," or contagious.

Consumption.

Winter is the worst time of year for contracting consumption, the "Great White Plague."

This disease is caused by a minute germ which is familiar to all scientists. This germ gets into the body and settles in the lungs and grows, and by its growth destroys the lungs very rapidly. The sputum of the consumptive is filled with these little germs, and if these germs get into other people's bodies they are apt to give them consumption.

Consumption is spread about by careless spitting, kissing, by fingers soiled with the germs from the mouth, by common drinking cups, and the like.

If you have consumption, do not give it to others. Do not spit on floors, sidewalks, street cars, elevators or public places. Spit into a special sputum cup, or napkin that can be burned. Hold a handkerchief, better a paper, one that may be burned, before the face when coughing. Do not kiss anyone, do not use a public drinking cup or glass, and if the fingers are soiled with your sputum wash them thoroughly with soap and water at once. Remember that if you are careless you may give your terrible disease to others.

If you have not consumption, do not get it. Do not work or live in a place where people spit on the floor. Do not use a public drinking glass. Do not kiss people who may have consumption. Do not put the fingers into the mouth for any purpose. Wash the hands always before eating. Do not spit on the floor yourself; do not let others do it. Keep in good health by avoiding excesses, eating sensibly, and most important of all, by getting plenty of fresh air. Do not work in a room where there is no fresh air. Do not live in a room where there is no fresh air. Do not sleep in a room where there is no fresh air.

The State Department of Health publishes bulletins which give full information of the cause and treatment of consumption. They will send, free of cost, these bulletins, to any citizen who will send his name and address to the office in Topeka.

12th month.

December.

31 days.

D. of mo.	D. of wk.	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon sets.
			Rises.	Sets.	
1	M	Abraham Lincoln speaks at Elwood, 1859.	6 59	4 39	8 04
2	Tu	John Brown hung at Charlestown, Va., 1859.	7 00	4 39	9 11
3	W	Lawrence besieged by Missourians, 1855.	7 01	4 38	10 14
4	Th	David J. Brewer, associate justice U. S. sup. ct., 1889.	7 02	4 38	11 15
5	Fri	Topeka founded by C. K. Holliday and others, 1854.	7 03	4 38	morn
6	Sa	Geo. W. Martin, secretary State Historical Society, 1899.	7 04	4 38	0 14
7	Su	First Free-state legislature met at Leecompton, 1857.	7 05	4 38	1 12
8	M	Mrs. E. P. Allerton publishes "Walks of Corn," 1888.	7 05	4 38	2 10
9	Tu	Gov. Shannon orders proslavery forces to disband, 1855.	7 06	4 38	3 11
10	W	Capitol building, 427-429 Kansas ave., used 1863 to 1869.	7 07	4 38	4 13
11	Th	J. W. Robinson, first secretary of state, died, 1863.	7 08	4 38	5 17
12	Fri	This is an age of baths and not of perfumes.	7 09	4 38	6 25
13	Sa	Is it the odor of sanctity in the unventilated church?	7 09	4 39	rises
14	Su	Third Kansas captures Butler and Papinsville, Mo., 1861.	7 10	4 39	5 27
15	M	Proslavery men destroy paper at Leavenworth, 1855.	7 11	4 39	6 37
16	Tu	Kansas wheat first prize at Omaha Corn Expo., 1908.	7 12	4 39	7 49
17	W	Bill to establish Kansas and Nebraska territories, 1844.	7 12	4 40	9 02
18	Th	Gov. Medary assumed duties as governor of Kan. Ter., 1858.	7 13	4 40	10 14
19	Fri	Heredity plays but second fiddle in tuberculosis.	7 13	4 41	11 26
20	Sa	Battle of the Spurs, Jackson county, 1858.	7 14	4 41	morn
21	Su	Great meteor passes over Kansas, 1876.	7 15	4 42	0 37
22	M	Lawrence convention nominates state officers, 1855.	7 15	4 42	1 49
23	Tu	Free-state meeting at Lawrence, 1854.	7 16	4 43	3 01
24	W	Oss promulgates squatter sovereignty dogma, 1847.	7 16	4 43	4 15
25	Th	East wing of capitol occupied by state officers, 1869.	7 17	4 44	5 29
26	Fri	A laugh is worth a hundred groans on any market.	7 17	4 45	6 40
27	Sa	T. N. Stinson commissioned as treasurer Kan. Ter., 1855.	7 17	4 45	sets
28	Su	Governor Medary asks military aid, 1858.	7 18	4 46	5 45
29	M	Lawrence dam completed and used, cost \$100,000, 1874.	7 18	4 46	6 52
30	Tu	Osage Indians locate on the Neosho river, 1825.	7 18	4 47	7 59
31	W	Law abolishing slavery in Kansas unconstitutional, 1860.	7 19	4 48	9 02

MOON'S PHASES.

- ☾ First Quarter, 5th day, 8h. 59m., morning.
- ☾ Full Moon, 13th day, 9h. 0m., morning.
- ☾ Last Quarter, 20th day, 10h. 16m., morning.
- New Moon, 27th day, 8h. 59m., morning.

A careless spitter with a little cough is a dangerous citizen.
 It is difficult to cure consumption; it is easy to prevent it.
 Open your windows for the fresh air and you will seldom have to open
 your pocketbook for the druggist.
 Sow the seed of consumption and you reap the fruits of death.
 Avoid consumption "cures." They never cure.

Almanac Calculations for 1913.

The year 1913 comprises the latter part of the 137th and the beginning of the 138th year of American Independence and corresponds to: The year 6626 of the Julian Period; the year 5673-5674 of the Jewish era; the year 5674 begins at sunset on October 1; the year 2666 since the foundation of Rome, according to Varro; the year 2573 of the Japanese era and to the 46th year of the period entitled "Meiji;" the year 1332 of the Mohammedan era, or the era of the Hegira, begins on the 30th day of November, 1913. The first day of January, 1913, is the 2,419,769th day since the commencement of the Julian Period.

CHRONOLOGICAL CYCLES FOR 1913.

Dominical Letter.....	E	Solar Cycle.....	18
Lunar Cycle or Golden No.....	14	Roman Indiction.....	11
Epact.....	22	Julian Period.....	6626

MORNING AND EVENING STARS, 1913.

The planet Venus is evening star until April 24, then morning star to end of year.

The planet Mars will be morning star throughout the year.

The planet Jupiter begins as morning star and continues as such until July 5, after which date he is evening star balance of year.

The planet Saturn is evening star until May 29, then morning star to December 7, and evening star from that date to end of year.

SEASONS FOR 1913.

(Eastern Standard Time.)

Vernal Equinox (Spring begins).....	March 21, 0:18 a. m.
Summer Solstice (Summer begins).....	June 21, 8:09 p. m.
Autumnal Equinox (Autumn begins).....	September 23, 10:55 a. m.
Winter Solstice (Winter begins).....	December 22, 6:35 a. m.

CHURCH DAYS FOR 1913.

Epiphany.....	January 6	Easter Sunday.....	March 23
Septuagesima Sunday.....	January 19	Low Sunday.....	March 30
Sextagesima Sunday.....	January 26	Rogation Sunday.....	April 27
Quinquagesima Sunday.....	February 2	Ascension Day.....	May 1
Shrove Tuesday.....	February 4	Whit Sunday.....	May 11
Ash Wednesday.....	February 5	Trinity Sunday.....	May 18
Quadragesima Sunday.....	February 9	Corpus Christi.....	May 22
Palm Sunday.....	March 16	Advent Sunday.....	November 30
Good Friday.....	March 21	Christmas Day.....	December 25

EMBER DAYS, 1913.

February.....	12, 14 and 15	May.....	14, 16 and 17
September.....	17, 19 and 20	December.....	17, 19 and 20

ECLIPSES FOR 1913.

In the year 1913 there will be five eclipses, three of the sun and two of the moon.

I.—A total eclipse of the moon, March 22, partly visible here, the moon setting eclipsed; the beginning visible generally in North America, western South America, throughout the Pacific Ocean, Australia, and the eastern border of Asia; the ending visible generally in western North America, the Pacific Ocean, Australia, central and eastern Asia.

II.—A partial eclipse of the sun, April 6, invisible here.

III.—A partial eclipse of the sun, August 31, invisible here.

IV.—A total eclipse of the moon, September 15, the moon setting here as the eclipse begins; the beginning visible generally in North America, excepting the extreme northern portion, the Pacific Ocean, Australia, and eastern Asia; the ending visible generally in Alaska, the Pacific Ocean, excepting the eastern portions, Australia and Asia.

V.—A partial eclipse of the sun, September 29, invisible here; visible to greater portion of the Indian Ocean.



WHAT THE KANSAS STATE BOARD OF HEALTH STANDS FOR.

THE TEETH AND THEIR CARE.

Using the geographical method of description, we would describe the mouth as being bounded on the sides by the cheeks; in front by the lips; in the rear by the opening into the œsophagus; below by the base of the tongue and the floor of the mouth, and above by the hard palate. It contains the teeth, the gums, the tongue, and has connected with it certain glands which secrete the saliva.

The mouth is the opening through which all food and drink must pass in reaching the stomach, and its office and use must therefore be important.

The teeth occur in two sets, one in childhood, a temporary set, and the other in adult life, a permanent set. The temporary set is composed of twenty teeth which are erupted from the first to the third years; the permanent set is composed of thirty-two teeth, and supplants the temporary one.

At about six years the first permanent molars are erupted and are usually the largest in the mouth. Since these teeth come so early in life they are often mistaken for temporary teeth, and do not have the care they should, but they are really the most important in the mouth, and when lost serious consequences are apt to result.

Following the first permanent molars, the other permanent teeth erupt in spaces occupied by the corresponding temporary teeth, although, of course, they are much larger; this produces a pressure on the teeth resulting in enlargement or growth of the jaw. If, however, the temporary teeth are lost too early, the jaw is not enlarged as much as it should be, so that when the permanent teeth are erupted there is not room enough for them, and a condition results in which the teeth are irregular and crooked.

It is, therefore, of the utmost importance that the temporary teeth be kept in repair and in position until the permanent teeth are ready to replace them. If the teeth are well placed, they are evenly arranged in an upper and lower arch in such a way that when the mouth is closed the lower and upper teeth fit together on their grinding surface. Unfortunately, however, there is ordinarily little attention paid to the first set of teeth, under the belief that, being temporary in character, they have no function to perform outside of their immediate use to grind the food, and thus we have misshapen jaws and crooked teeth that do not fit their opposites, with resultant imperfect mastication.

The function of the mouth is to prepare food for digestion. If the food is imperfectly masticated, the stomach has greater difficulty in digesting it, and if poor teeth are associated with the American habit of "bolting" the food, then too great a task is put on the stomach, the results of which will be indigestion and dyspepsia with their usual associated evils.

Not only is thorough mastication necessary for perfect prepara-

tion of food for digestion, which includes a thorough mixing of the saliva with the food, but it is also necessary in order to bring out the real flavors of the food, upon which the enjoyment and pleasure of a good meal depends.

Some of the severe infectious diseases of childhood have a bad effect on the formation of the teeth. Often skillful dentists can tell at about what period in a child's life it has had a severe illness because of the resulting effect on the forming of the teeth.

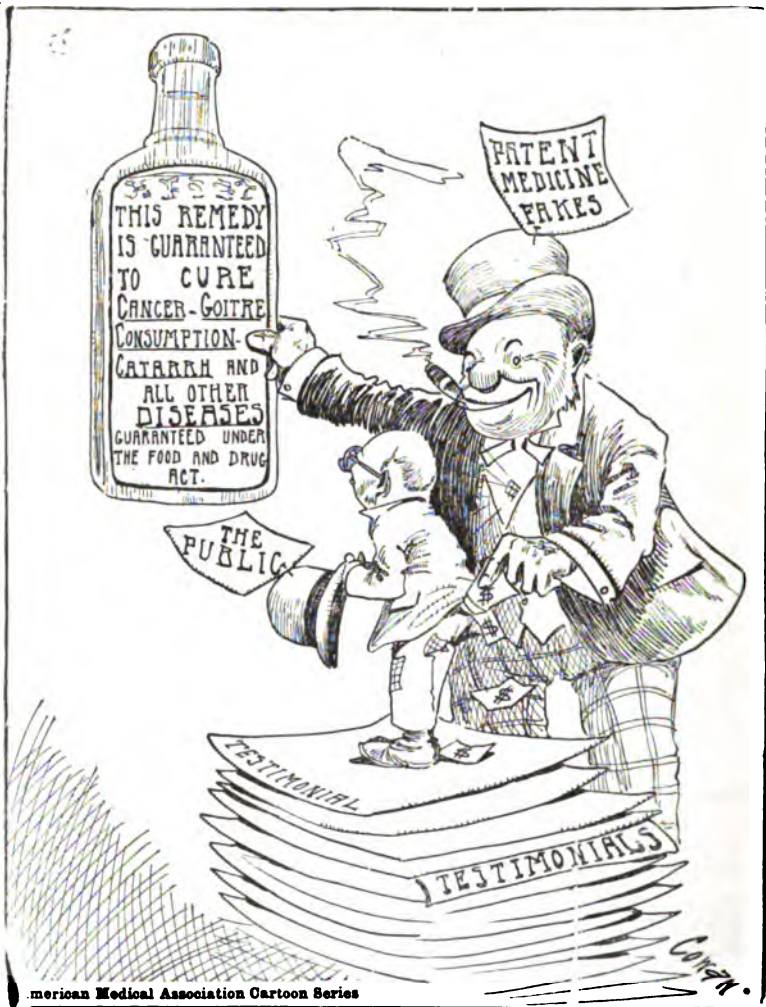
Then, too, it is claimed by the dentists that mouth-breathing, the result of adenoides and enlarged tonsils, causes a misshapen jaw and irregular teeth. It seems clear, therefore, that not only must the temporary teeth be preserved as long as possible, but that all obstructions to proper breathing be removed if we want our children to have normal mouths and perfect teeth, which are really fundamentally necessary for normal growth and well nourished bodies.

Every tooth is subject to decay, the result of which is a cavity formed in the teeth, and if allowed to remain will eventually destroy the tooth. These cavities are formed by acids which are produced by fermentation of the food stuffs which are allowed to remain around the teeth. If the teeth could be kept perfectly clean they would seldom decay. There is in the tooth a pulp which contains the nerves of the tooth. These nerves are irritated by the sweet and sour, the hot and cold foods which get into the cavity, and then to the tooth *aches*. This is nature's warning that something is wrong. If the warning is not heeded by a visit to your dentist, the cavity will grow and reach the pulp of the tooth. Step by step the destruction processes will continue until the tooth is destroyed by abscess formation at the root, which may even threaten the jaw-bone. If these teeth could have been filled early, and instruction in the proper care of the teeth given, they would have been saved for years of usefulness and much pain prevented.

Everyone should make a visit to his dentist at least twice a year and have his teeth examined and all defects repaired, not waiting until the aches and pains drive him there to get relief.

We are of the belief that much stomach trouble of a serious character is the direct result of diseased teeth which, in some cases at least, might have been prevented.

The mouth should be cleaned after each meal, all particles of food removed from between the teeth, and the teeth thoroughly brushed at least every night and morning. All tartar should be removed before the gums become inflamed, and the occasional use of an antiseptic mouth-wash is the part of sound, oral hygiene. The best investment you can make for your future health, to say nothing about your future comfort, is to give your teeth the care and attention their importance demands.



American Medical Association Cartoon Series

THE SICK CHUMP AND HIS MONEY ARE SOON PARTED!

"Our civilization of to-day is in as much danger of certain men of the silk hats as the civilization of Rome was from the Goths and Huns—the men of the red shirts."—*Estey*.

BULLETIN

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S. J. CRUMBINE, M. D., Secretary and Editor.

W. J. V. DEACON, Registrar.

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VOL. IX

DRUG ANALYSIS No. XLII.

L. E. SAYRE, Director; L. D. HAVENHILL, Chief; G. N. WATSON, Analyst; C. M. STERLING, Microscopist.

The director of the drug laboratory desires to make a report herewith upon the analyses of various preparations which have come to the laboratory since the date of the previous report.

Certain samples are worthy of special mention. No. 5650, "Cream of Tartar," contained only calcium acid phosphate. It would seem rather brave for one to put out upon the market a preparation of this sort with full knowledge of the provisions of the food and drugs law.

Sample No. 5648, "Granulated Sugar," which contained strychnine, should be stated as not being a preparation sold by a dealer but evidently "doctored" for criminal purposes.

Sample No. 5597, "Fluid En-se-rol." Sample was claimed by the manufacturer to be a remedy for deafness. In this connection it is in place to call the attention of manufacturers and dealers to the enactment of the Sherley bill amending the food and drugs law. It is now a law. It consists in the addition of a third clause to section 8 of the enactment of June 30, 1906. The exact language of the new addition to the law is as follows: "Third. If its package or label shall bear or contain any statement, design or device regarding the curative or therapeutic effects of such article or any of the ingredients or substances therein which is false and fraudulent," a drug shall be deemed misbranded.

Those who have been watching this legislation are aware that it was called out by the decision of the supreme court in the so-called "Johnson cancer cure case." This decision showed that according to the food and drugs law a label could contain, without violating the law, any statement regarding the curative or therapeutic effects

of any medicinal article. This decision, once rendered, aroused the indignation of the authorities, who stated that if the law did not cover the point it was evidently intended it should do so. The law as it now reads is effectual in restricting extravagant claims made for alleged remedial agents sold in interstate commerce, and it makes it possible to prosecute those who will indulge in introducing remedies for which they make unwarranted claims.

In the case of the above-mentioned remedy—if it be a remedy—for deafness the only question concerning it is between the consumer and the manufacturer; whether the price asked for it compares with the value of the ingredients, that is, whether the real value is found in its *alleged remedy* for deafness, or whether it is in the commercial value of the ingredients, which latter is entirely a commercial problem and not a matter of legal interest.

SOAP LINIMENT.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Gms. soap in 100 cc.	Gms. camphor in 100 cc.
5492	20105	North Star Drug Store.....	Assaria.....	.8764	5.52	4.5
5601	20170	M. I. Smith.....	Luray.....	.8770	5.76	4.5

* Soap liniment should contain 4.5 gms. of camphor in 100 cc. and 5.5 to 6 gms. of soap in 100 cc. The specific gravity should be .8748 to .8852.

SPIRIT OF CAMPHOR.*

Lab. No.	Insp. No.	NAME.	City.	Per cent camphor.	Added water.
5588	20165	Dr. R. S. Love.....	Athol.....	10.3	.....
5602	20171	Elliot & Poog.....	Bogue.....	12.5	.....
5608	20172	A. Pouliet.....	Damar.....	8.9	.....
5622	20184	Attwood & Bovard.....	Utica.....	16.2	.....
5624	20188	Dr. J. W. Sheppard.....	Leoti.....	8.1	17.2
5640	20208	Palace Drug Store.....	Preston.....	10.2	.....

* Spirit of camphor should contain 10 gms. of camphor in 100 cc. and no added water.

OIL OF THYME.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Alcohol.	Per cent phenols.
5529	20136	O. L. Kinsey.....	Delphos.....	.9156	None.	23.4
5540	20147	A. L. Breeden.....	Lenora.....	.9073	None.	28.9

* Oil of thyme should have a specific gravity of .900 to .930; should contain no alcohol; should contain 20 per cent phenols.

TURPENTINE.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Refractive index.	Per cent distilled between 155° and 162°.
5402	20049	Ruhling Hardware Co....	Salina.....	.862	1.4707	84.5
5405	20048	Woodard Paint Co.....	Salina.....	.862	1.4706	84.0
5578	.....	C. L. Becker.....	Ottawa.....	.864	1.4705	90.0

* Oil of turpentine should have a specific gravity of .860 to .870; the larger part should pass over between 155° and 162°.

POWDERED ASAFOETIDA.*

Lab. No.	Insp. No.	NAME.	City.	Ash.	Remarks.
5635	20199	A. & A. Drug Co.,	St. John...	87.3	Ash consists chiefly of talcum and calcium carbonate. Sample was labeled 14 per cent soluble.
5639	20202½	C. R. Hoyt.....	Belpre....	85.1	Ash consists chiefly of talcum and calcium carbonate. Sample was labeled "Powdered Asafoetida Compound."

* Asafoetida should yield not more than 10 per cent of ash.

AMMONIUM CARBONATE.*

Lab. No.	Insp. No.	NAME.	City.	Per cent ammonia.	Remarks.
5628	20192	Garfield Drug Co..	Garfield...	81.02	Sample consisted of cubes. Some of these were hard and translucent while others were soft and opaque. Negative test for sulphates, thiosulphates, chlorides and heavy metals.
5630	20194	C. W. Patchen....	Jetmore...	21.2	Sample was a powdered ammonium carbonate. Negative test for sulphates, thiosulphates, chlorides and heavy metals.
5642	20205	Pratt Drug Co ...	Pratt.....	22.84	Sample consisted entirely of friable opaque pieces. Negative test for sulphates, thiosulphates, chlorides and heavy metals.

* Ammonium carbonate should yield not less than \$1.58 of ammonia gas. Should contain no sulphates, thiosulphates, chlorides or heavy metals.

ESSENCE OF PEPPERMINT.*

Lab. No.	Insp. No.	NAME.	City.	Per cent oil.	Added water.	Remarks.
5581	20158	A. W. Jordan.....	Otego.....	9.99	Trace.	
5584	20161	Dr. H. D. Brothara...	Agra.....	2.11	None.	
5621	20188	D. H. Nothdurt.....	Otis.....	8.05	None.	
5638	20197	W. F. Hanns.....	Hanston...	3.1	35 %.	Label, "Ext. Peppermint."

* Essence of peppermint should contain 10 cc. of oil in 100 cc. of the preparation and no added water.

TINCTURE OF GINGER.*

Lab. No.	Insp. No.	NAME.	City.	Per cent alcohol.	Presence of capsicum.	Remarks.
5580	20157	Stewart Drug Co.....	Formoso....	89.4	None.	
5582	20159	J. Jenkinson.....	Esbon.....	66.8	None.	
5632	20196	Hutchinson Mercantile Co.....	Hutchinson,	44	Present.	Alcohol declared 60 per cent. Contains large amount of sediment.

* Tincture should contain about 91 per cent alcohol and no added water. Capsicum should not be present.

TINCTURE OF OPIUM.*

Lab. No.	Insp. No.	NAME.	City.	Per cent morphine.
5498	20111	Lyons Drug Co.....	Lyons.....	1.18
5499	20112	J. B. Ira & Son.....	Lyons.....	0.951

* Tincture of opium should contain 1.2 to 1.25 gms. of morphine in 100 cc. of the tincture.

TINCTURE OF IODINE.*

Lab. No.	Insp. No.	NAME.	City.	Gms. of iodine in 100 cc.	Gms. of potassium iodide in 100 cc.
5575	20153	Linn, retailer.....	Mankato.....	4.5	2.6
5577	20155	Freese Pharmacy.....	Courtland.....	7.6	7.5
5587	20164	Nyal Drug Store.....	Norton.....	6.18	4.09
5690	20169	Model Drug Store.....	Barnard.....	7.23	4.91

* Tincture of iodine should contain 6.86 gms. of iodine and 5 gms. potassium iodide in 100 cc. of the tincture.

Lab. No. 5235, Insp. No. 9095. "Seidlitz Powders." McPike Drug Company, Kansas City, Mo. Weight of tartaric acid, 2.455; weight of Rochelle salt and sodium bicarbonate, 11.09. Seidlitz powders should contain 2.25 gms. of tartaric acid and 10.33 gms. of Rochelle salt and sodium bicarbonate.

Lab. No. 5378, Insp. No. 80215. "Witch Hazel." Larkin Company, Buffalo, N. Y. Contained 13.8 per cent alcohol. Negative test for methyl alcohol.

Lab. No. 5444, Insp. No. 20066. "Liquor Potassii Arsenitis." Kiefer Pharmacy, Kansas City, Kan. Sample contained 68 per cent of arsenic trioxide. Color was light yellow, evidently not having been colored with compound tincture of lavender. Below standard.

Lab. No. 5606, Insp. No. 20175. "Bay Rum." Dunn & Company, St. Francis. Contained 23.9 per cent of alcohol. Negative test for methyl alcohol. Declared to contain 58 per cent alcohol. Contained sediment and was low in oil. Misbranded.

Lab. No. 5644, Insp. No. 20179. "Buchu Leaves." H. R. Tuttle, Quinter, Kan. Leaves were good quality but sample seemed to contain excess of sticks. The sticks were evidently portions of the new growth of the plant and seemed to contain considerable of the oil. Passed.

Lab. No. 5650, Insp. No. —. "Cream of Tartar." Sample was not cream of tartar, but a calcium acid phosphate and starch. Misbranded.

Lab. No. 5112, Insp. No. 2980. "N. E. D. A. Dyspepsia Tablets." Cartmall Pharmacy, Kansas City, Kan. Declared to contain pepsin, pancreatin, diastase, lactic acid, hydrochloric acid, golden seal, bismuth subnitrate, ginger, and nux vomica. Sample had ash, 48.2 per cent; contained no bismuth subnitrate, ginger, nor alkaloids. Tablets were neutral, and showed no digestive action on egg albumin. Misbranded.

Lab. No. 5597, Insp. No. —. "Fluid En-se-rol." Sample was claimed by the manufacturer to be a remedy for deafness. Sample

was found to be an aqueous solution containing 1.106 gms. of sodium carbonate in 100 cc. of the preparation; contained menthol and an aromatic substance suggestive of cinnamon.

Lab. No. 5643, Insp. No. 5060. "Horse Plague Cure." J. S. Buckley, Dodge City, Kan. Sample was found to be a solution of iodine and potassium iodide in glycerine, containing about 2.2 gms. of iodine in 100 cc.

Lab. No. 5644, Insp. No. —. "Chinoline." Chinoline is a preparation said to be a drier for linseed oil. Sample had specific gravity .8720; refractive index, 1.4743; fire test, 45°; saponification value, 72.4. The preparation formed a fluorescent coat on glass, having very little adhesiveness and responded to the Liebermann-Stroch test for rosin or rosin oil. Preparation showed tendency toward separation on drying, forming greasy layer over surface. Litharge was present in ash.

Lab. No. 5645, Insp. No. —. "Tablets." Tablet No. 1 contained acetanilid, caffeine and sodium bicarbonate. Tablet No. 2 contained .362 gr. of strychnine sulphate.

Lab. No. 5647, Insp. No. —. "Cider." Theodore H. Pollock, Marysville, Kan. Sample contained 7.25 per cent alcohol.

Lab. No. 5648, Insp. No. —. "Granulated Sugar." Supposed to contain poison. Strychnine was detected.

Lab. No. 5104, Insp. No. 2972. "Papine." C. H. See, Kansas City, Kan. Sample was colored with cochineal. Sample contained morphine, chloral hydrate, glycerin and alcohol. Sample contained 9.5 per cent of alcohol. Chloral hydrate not declared. Misbranded.

Lab. No. 5513, Insp. No. 20074. "Strychnine Dispensing Tablets." Wm. McGeorge, Argentine. Tablets contain .0136 gms. of strychnine; declared to contain $\frac{1}{4}$ gr. of strychnine.

Lab. No. 5528, Insp. No. 20135. "Compound Acetphenetidin Tablets." O. L. Kinsley, Delphos. Sample contained starch, sodium bicarbonate, caffeine, phenacetin; colored with iodeosin.

Lab. No. 5585, Insp. No. 20162. "Papine." Chatelle-Hamilton Drug Company, Smith Center. Sample contained 13.4 per cent alcohol. Colored with aniline dyes and contained morphine. Sold on call for papine; found to be the same as ~~as 5585~~ ^{as 5585} "Elixir of Poppy Compound." Declared to contain alcohol, 11 per cent, and morphine, 1 gr. per ounce.

Lab. No. 5586, Insp. No. 20163, "Elixir of Poppy Compound." Chatelle-Hamilton Drug Company, Smith Center. Contained 13.4 per cent alcohol; morphine was present. Sample was colored with aniline dye. Declared to contain 14 per cent of alcohol and puri-

LINSEED OIL.*

Lab. No.	Insp. No.	Saponif. No.	Flash test.	Fire test.	Specific gravity.	Drying Test.	Liebermann-Storch reaction.	Refractive index.	Remarks.
5483	14D	195.09	306°	350°	.....	Dries in 120 hours	—	1.4789	Steiger-Hazlett, Whitewater. Passed.
5679	20156½	189.51	65°	190°	.921	Dries in 72 hours. Does not form teneaceous coat.	—	1.4785	Thos. H. Shedden, Formoso. Passed.
5591	.....	142.13	.....	.....	.....	Dries in 36 hours. Does not form teneaceous coat.	+	.....	Sent by Kansas Lumber Co. Adulterated.
5592	17D	125.97	65°	115°	.....	Forms semi-opaque coat on glass.	+	.....	"Boiled Oil."
5593	.....	91.9	45°	120°	.889	Does not form dry coat properly on glass plate.	+	.....	Sent in by Elzie Thomas, Sabetha. Contains about 83 per cent unsaponifiable matter. Adulterated.
5594	.....	.....	.....	.....	.930	Dries in 20 hours, forming good coat.	—	.....	Sent in by C. A. Smith, Oakley.
5596	.....	189.79	308°	355°	.923	Forms good coat on glass.	—	1.4847	"Boiled Oil."
5612	80244	91.65	75°	55°	.883	Does not form good coat on glass.	+	1.4824	Sent in by Frank E. Chapin, Minneapolis.
5613	.....	142.69	.....	135°	.886	.....	+	.....	D. B. Hickey, Chanute. Adulterated.
5614	.....	.....	.....	.....	.....	.....	+	.....	Broken in transit.
5615	.....	92.11	155°	185°	.878	.....	+	.....	Contains mineral oil. Adulterated.
5616	.....	197.0	230°	190°	.986	Dries in 20 hours.	+	.....	"Boiled oil." Passed.
5595	.....	153.2	110°	190°	.909	.....	+	.....	M. A. Hulbert, Manufacturer. Adulterated.
5509	20D	97.8	50°	150°	.830	Forms opaque coat on glass.	+	.....	T. Millard, Rago. Adulterated.
5578	20156	189.5	100°	350°	.920	Dries in 24 hours.	+	.....	Thos. H. Shedden, Formoso. "Boiled Oil." Passed.

*The Pharmacopoeial requirements for raw linseed oil are that it have a specific gravity of 0.925 to 0.935; saponification value of 187-196; iodine value, not less than 170; that it have a yellowish color, and should dry on glass plate, forming hard, transparent coat.

fied opium 8 gr. per ounce. No test was obtained for meconic acid, indicating that gum opium was not used. Misbranded.

Lab. No. 5589, Insp. No. 20160. "Papine." Lathrop Drug Store, Norton. Sample contained 10.9 per cent alcohol. Contained chloral hydrate, glycerin and morphine, and was colored with cochineal. Chloral hydrate was not declared. Misbranded.

Lab. No. 5604, Insp. No. 20173. "Solution of Carbolic Acid." Cashman & Company. Manufactured by E. E. Brush & Company, Omaha. Sample contained 91.5 per cent of phenol. Declared to contain 90 per cent of phenol. Passed.

Lab. No. 5608, Insp. No. 20177. "Papine." Lathrop Bros., Norton. Sample contained 9.3 per cent alcohol, glycerin, alcohol, chloral hydrate and morphine, and was colored with cochineal. Declared to contain 11 per cent of alcohol. Presence of chloral hydrate was not declared on the bottle. Misbranded.

Lab. No. 5617, Insp. No. 22D. "Bitter Cascara." Sample was found to be an aromatic extract of cascara. Misbranded.

Lab. No. 5607, Insp. No. 20176. "Carbolic Acid." Hawk & Son, Bird City. Sample contained 7.17 per cent of phenol. Misbranded.

Boiled linseed oil should contain not less than 96 per cent linseed oil; should have specific gravity at 60° F. not less than 0.935; saponification value not less than 186; iodine number not less than 160; acid value not above 10; volatile matter expelled at 212° F. not to exceed $\frac{1}{2}$ per cent; no mineral oil should be present, and unsaponifiable matter shall not exceed $2\frac{1}{2}$ per cent. The film left after flowing the oil over glass plate and allowing it to drain in vertical position must dry free from tackiness in not to exceed 20 hours at a temperature of about 70° F.

Iodine number is not determined when this data is found unnecessary.

Pertinent Questions.

"Why conserve tree life and plant life and neglect human life?"

"Why conserve coal mines and not conserve the life of the coal miner?"

"Why protect pigs and forget the children?"—Senator Owen, of Oklahoma.

"Why conserve the cotton plant and expend \$500,000 to fight the boll-weevil, and not conserve the people who are to be clothed with the cotton?"





By courtesy of Florida Health Notes.

DRUG ANALYSIS No. XLIII.

L. E. SAYRE, Director; L. D. HAVENHILL, Chief; G. N. WATSON, Analyst; CHAS. M. STERLING, Microscopist.

The accompanying report contains the analysis of preparations sent in by the drug inspectors. Some of the preparations are deserving of note. For example:

TINCTURE OF IRON (5693).—Having the specific gravity of 1.196 indicates that it is low in alcoholic strength although it is high in iron constituent.

SPIRITS OF CAMPHOR (5700).—Containing 16.6 gms. of camphor to 100 cc. of the preparation is as illegal as if it were substandard in strength. It was rather surprising that one should go to such expense to violate the food and drugs law as the manufacturer of this preparation seems to have done.

OIL OF SPIKE COMPOUND (5681).—Many liberties have been taken on the part of merchants in marking preparations known as Oil of Spike. Some of the preparations bearing this name have been made up of Barbados tar, oil of turpentine, and flavored with lavender. Other fictitious oils of this name are composed principally of turpentine in which the lavender has been macerated. *Oleum Spicae*, oil of spike, is really obtained from the spike lavender, which yields from 0.8 to 1.75 per cent of oil, the specific gravity of which is about 0.81 to 0.98, and soluble in 1 part of alcohol. The admixture of oil of turpentine is easily detected by the decreased solubility in alcohol. Oil of Spike Lavender has a deeper green-yellow color and a more turpentine, camphoraceous odor than the true lavender, and has certain other characteristics which are definite.

TINCTURE OF ARNICA (5636).—We have here a preparation which is excessively alcoholic, 89.2 per cent, whereas it should be 46 per cent of alcohol. Here is another case of going to an unnecessary expense to violate the law.

PAPINE (5719, 5721, AND 5727).—It should be carefully noted that in any preparation of such a character as Papine, which contains the ordinary narcotics and hypnotics, these should be declared on the label.

Lab. No. 5188, Insp. No. 9052. "Brown Mixture." Wharton Pharmacy, Lyons. Sample contained 4 per cent sugar, and gave positive tests for alcohol, camphor, glycerin, glycyrrhiza, tartar emetic and alkaloids.

Lab. No. 4798, Insp. No. 8818. "Fluid Extract of Ergot." D. H. Hockett, Cawker City. Sample too small for assay.

Lab. No. 5334, Insp. No. 80178. "Tr. of Rhubarb." M. J. Kane, Scammon. Sample contained 41.8 per cent alcohol. Glycerin was present.

SYRUP OF FERROUS IODIDE.*

Lab. No.	Insp. No.	NAME.	City.	Color.	Per cent ferrous iodide.	Remarks.
5576	20154	Weeks Drug Co.	Mankato..	Dark red.	4.7	No free iodine. Evidence of caramelization.
5601	20168½	Hall Drug Store.	Lincoln..	Nearly colorless.	4.82	Passed.

*Syrup of ferrous iodide should contain about 5 per cent of ferrous iodide, and should be a transparent pale green liquid. Free iodine should not be present.

SOLUTION OF CHLORIDE OF IRON.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Ferrous iron.	Nitric acid.	Gms. of metallic iron.
5664	20206	T. S. Locke.	Liberal ...	1.29	None ...	None ...	9.8
5690	20226	Lotteridge & Lotteridge.	Pratt.	1.286	None ...	None ...	10.14

*Solution of chloride of iron should have a specific gravity of about 1.282; should contain not less than 29 per cent of the anhydrous salt, corresponding to 10 per cent of metallic iron. Ferrous salts and nitric acid should not be present.

TINCTURE OF FERRIC CHLORIDE.*

Lab. No.	Insp. No.	Name.	City.	Specific gravity.	Per cent metallic iron.	Nitric acid.	Ferrous salts.
5672	20214	Palace Drug Co.	Bucklin. ....	.9950	.....	.....	.....
5692	20228	Alford's Pharmacy.	Mullinville.	1.000	4.6	None ...	Present.
5693	20229	Graft's Pharmacy.	Mullinville.	1.196	5.02	None ...	Present.
5695	20233	Earl Collin.	Harper. ....	.9582	3.89	None ...	Present.
5697	20235	City Drug Store.	Anthony.	1.106	4.8	None ...	Present.
5698	20236	Geo. H. Crooker.	Anthony. ....	.8614	3.79	None ...	Present.

*Tincture of ferric chloride should have specific gravity of about 1.006; should contain not less than 13.28 per cent of the anhydrous salts corresponding to 4.58 per cent of metallic iron. Nitric acid and ferrous salt should not be present.

TURPENTINE.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Refractive index.	Evaporation test.	Per cent distilling between 155°-162°.	Refractive index of residue.	Test for tar oil.
5583	20140	N. E. Blood.	Beloit. ....	.864	1.4704	Complete.	86	1.4970	Negative.
5681	20196	Dr. W. B. Eiting. ..	Burdett. ....	.862	1.4699	Complete.	77	1.4925	Negative.

*Turpentine should have specific gravity of .860 to .870; when the oil is distilled the greater part should pass over between 155° and 162°. Oil of turpentine should evaporate completely from filter paper without leaving a spot. Tar oil should not be present.

BAY RUM.*

Lab. No.	Insp. No.	NAME.	City.	Alcohol.	Test for methyl alcohol.	Remarks.
5618	20180	Stewart & McMullan. ..	Russell.	42.3	Negative..	Low in oil.
5638	20202	Hoist Drug Store.	Belleville.	46.2	Negative..	Contains a diment.
5641	20204	P. & F. Drug Co.	Pratt.	57.	Negative..	Low in oil.

*Bay rum should contain 56 to 58 per cent alcohol; should contain no sediment and should compare favorably with the standard preparation in the amount of oil.

LINSEED OIL.

Lab. No.	Insp. No.	NAME.	City.	Sapen. No.	Specific gravity.	Flash test.	Remarks.
5619	20181	P. K. Butterfield & Co..	Mulvane.....	198.69	.981	312°	Dries perfectly. Passed.
5674	20216	Mathis Pharmacy	Greensburg...	96.84	.8872	175°	Adulterated with mineral oil.
5691	20227	J. M. Carver	Haviland	162.76	.907	190°	Adulterated with mineral oil.
5678	20215	Mathis Pharmacy.....	Greensburg...	117.89	.8980	87°	Adulterated with mineral oil (boiled).

* Linseed oil should dry perfectly on glass plate; not more than 1 per cent unsaponifiable matter should be present.

TINCTURE OF ARNICA.*

Lab. No.	Insp. No.	NAME.	City.	Per cent alcohol.	Extractive.	Test for methyl alcohol.
5228	9086	Hayden Bros.....	Wichita.....	40.2	3.06	Negative.
5870	80207	Larkin Company.....	New York.....	45.	4.21	Negative.
5636	20200	C. L. Hygh Drug Co..	Stafford.....	89.2	1.17	Negative. Adulterated.

* Tincture of arnica should contain 45 to 46 per cent of alcohol.

OIL OF CEDAR COMPOUND.

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Refractive index.	Rotation.	Distillation test.	Remarks.
5671	20218	Porter Drug Co..	Hugoton..	.985	1.4980	89.59	Greater part distills above 200°.	Mixture of oil of cedar wood and cedar leaves.
5679	20221	Cookson Drug Co..	Kingman..	.871	1.472	8.34	Greater part distills between 155° and 162°.	Consists chiefly of oil of turpentine.

ESSENCE OF PEPPERMINT.*

Lab. No.	Insp. No.	NAME.	City.	Cc. oil in 100 cc.	Per cent added water.	Remarks.
5670	20212	Richfield Drug Company..	Richfield.	3.2	47.3	Adulterated.
5717	80260	Shawnee Drug Store	Topeka	26.0	10.4	Adulterated.
5728	80271	Rosser Bros.....	Topeka	9.5	None.	Passed.

* Essence of peppermint should contain 10 cc. of oil in 100 cc. of the essence and no added water.

SPIRIT OF CAMPHOR.*

Lab. No.	Insp. No.	NAME.	City.	Camphor in 100 cc.	Added water.	Remarks.
5669	20211	Dr. Irene Buckmaster....	New Ulysses..	1.08	61.4	Adulterated.
5694	20281	G. E. Martin.....	Cullison.	7.3	None.	Adulterated.
5700	20238	Danville Drug Company..	Danville	16.6	None.	Adulterated.

* Spirit of camphor should contain 10 gms. of camphor in 100 cc. of the preparation and no added water.

TINCTURE OF IODINE.*

Lab. No.	Insp. No.	NAME.	City.	Per cent iodine.	Per cent pot. iodide.	Added water.	Remarks.
5675	20217	J. L. Mathis.....	Greensburg.....	2.4	None.	None.	Adulterated.
5677	20219	J. L. Mathis.....	Greensburg.....	5.41	1.6	None.	Adulterated.
5678	20220	J. L. Mathis.....	Greensburg.....	1.11	None.	None.	Adulterated.
5684	20230	J. L. Mathis.....	Wellsford.....	6.14	None.	None.	Adulterated.

* Tincture of iodine should contain 7 gms. of the official iodine and 5 gms. of potassium iodide in 100 cc. of the tincture and no added water.

Lab. No. 5538, Insp. No. —. "Oil of Gaultheria." D. C. Lieurance, Stockton. Rotation in 100 mm. tube, -27° . Refractive index at 20° , 1.4996. Passed.

Lab. No. 5544, Insp. No. 20151. "Oil of Lavendar." Woodston Pharmacy, Woodston. Sample showed specific gravity, .9076; refractive index at 20° , 1.4642. Soluble in 2.3 parts 70 per cent alcohol. Odor was not as good as a No. 1 grade lavender oil. Rotation, -5.07 in 100 mm. tube. Oil of lavender flowers has specific gravity of .80— to .892, and is soluble in 3 parts 70 per cent alcohol.

Lab. No. 5623, Insp. No. 20185. "Camphor." Ransom Drug Company, Ransom. Specific gravity of sample, .987; sublimes without residue. Negative test for chlorinated products. Ten gms. dissolved in enough official alcohol to make 100 cc. of finished product gave 9.93 gms. camphor by the polariscope method. U. S. P. camphor has specific gravity .990, and 10 gms. dissolved in official alcohol gives a reading of 10 per cent by the polariscope method.

Lab. No. 5625, Insp. No. 20189. "Powdered Asafoetida." Barber's Drug Store, Larned. 58.8 per cent of the sample was insoluble in alcohol. Ash, 10.4 per cent. At least 50 per cent of gum asafoetida should be soluble in alcohol. Sample contained large amount of wheat starch. Adulterated.

Lab. No. 5626, Insp. No. 20190. "Soap Liniment." A. & A. Drug Company. Specific gravity .8886. Sample contained 3.85 gms. of camphor and 5.54 gms. of soap in 100 cc.

Lab. No. 5634, Insp. No. 20198. "Santonin." Uhl Drug Company, St. John. Examined for adulterants. Passed.

Lab. No. 5637, Insp. No. 20201. "Monsel's Solution." A. & A. Drug Company, Howard. Contained an amount of the salt corresponding to 13.09 per cent iron. Contains no ferrous salt and no nitrate.

Lab. No. 5681, Insp. No. 20233. "Oil of Spike Compound." F. D. Eggleston, Kingman, Kan. Sample had specific gravity .884, and found to consist of crude petroleum residue, oil of turpentine, and a small amount of some other volatile oil unidentified. Presence of oil of spike doubtful.

Lab. No. 5446, Insp. No. 20018. "64 Tablets." 64 Remedy Company, Kansas City, Kan. Declared to be a remedy for colds, la grippe, malaria, torpid liver, constipation and indigestion. Tablets with starch base containing quinine, sulphate and iron.

PAPINE.

Lab. No.	Insp. No.	NAME.	City.	Per cent alcohol.	Remarks.
5719	80262	Chesterfield Pharm'y.	Topeka....	9.5	Colored with cochineal. Contains chloral hydrate, morphine and glycerin. Chloral hydrate was not declared on the label.
5721	80264	Alexander Gibler.....	Topeka....	9.2	Contains chloral hydrate, morphine and glycerin. Colored with cochineal. Chloral hydrate not declared.
5727	80270	Rosser Bros.....	Topeka....	10.2	Sample was colored with cochineal. Contains chloral hydrate, morphine and glycerin. Neither alcohol nor chloral hydrate declared on label.

COFFEE.

Lab. No.	Insp. No.	NAME.	City.	Brand.	Per cent chloroform extract.	Remarks.
5651	9983	Peerless Coffee Mills..	Wichita...	Bogota...	18.3	Good grade of coffee.
5652	9984	Peerless Coffee Mills..	Wichita...	Santos....	19.5	
5653	9985	Peerless Coffee Mills..	Wichita...	Java.....	17.5	About 12.7 per cent of coffee is bug eaten.
5654	9940	Peerless Coffee Mills..	Wichita...	Mocha....	19.0	Very poor grade of coffee. Large amount of shriveled grains. Black and immature grains present.
5655	9937	L. R. Bidwell Co.....	Wichita...	Peerless Princess,	17.1	A ground coffee. Microscopically O. K.
5656	9958	Tapp Mercantile Co...	Wichita...	Morning Queen Blend	.....	Declared 80 per cent coffee and 20 percent chicory. Net weight of coffee in package 12.9 ounces.
5657	9989	Tapp Mercantile Co...	Wichita...	Special Blend Princess Coffee...	15.8	Package was marked 14 ounces. Net wt. was found to be 13.85 ounces. A ground coffee and contained no foreign substance.
5658	9936	Western Pacific Tea Co.	Wichita...	Mocha....	19.2	An unground coffee, contained many very small grains, some black grains, and a few worm - eaten grains.
5659	9941a	Wichita Coffee Roasting Co.....	Wichita...	Unroasted,	.....	Fairly good quality.
5660	9941b	Wichita Coffee Roasting Co.....	Wichita...	Unroasted,	.....	Contains many shriveled grains and a few black grains.
5661	9941	Wichita Coffee Roasting Co.....	Wichita...	Unroasted,	.....	Contains a large number of black grains, also some shriveled and immature grains.
5662	9942	Wichita Coffee Roasting Co.....	Wichita...	Wi-Ro-Co Joy Coffee,	17.7	Ground coffee. No foreign substances detected.
5663	9943	Wichita Coffee Roasting Co.....	Wichita...	Pure Indian	18.3	Contains a large number of black grains.

BEVERAGES.

Lab. No.	Insp. No.	NAME.	Per cent alcohol.
5446	5761	Presto.....	1.1
5682	80245	Silver Top.....	None.
5688	80246	Viva Tone.....	None.

Lab. No. 5520, Insp. No. 20126. "American Saffron." G. H. Dockhorn, Chapman, Kan. Examined microscopically and found to be the dried florets of *Carthamus tinctorius* or American saffron.

Lab. No. 5532, Insp. No. 20139. "Aspirin Tablets." O'Brien Pharmacy, Beloit. Tablets weigh .427, and found to contain 5 grs. of aspirin.

Lab. No. 5537, Insp. No. 20144. "Colorless Tincture of Iodine." Drs. Munk and Hall. Sample was found to contain 2.01 grs. of combined iodine. Preparation was made by treating tincture of iodine with ammonia and sodium thiosulphate. Preparation was strongly ammoniacal, containing 3.95 grs. of ammonia gas per 100 cc.

Lab. No. 5556, Insp. ——. "Capsules." Found to be Brometone put up in No. 4 capsule holding about 4 grs.

Lab. No. 5590, Insp. No. ——. "Blanke's Magic Cup Sol. Coffee." C. F. Blanke Tea and Coffee Company, St. Louis. Soluble preparation containing 2.85 per cent of caffeine.

Lab. No. 5610, Insp. No. 6709. "Washington's Prepared Coffee." L. R. Eakin, Manhattan, retailer. Sample contained 5.29 per cent of caffeine. Apparently an extract of coffee made by extracting with a neutral solvent, allowing the solution to evaporate spontaneously, or at a low temperature, and scaling the resulting extract.

Lab. No. 5685, Insp. No. 5065. "Cider." Contained 9.6 per cent alcohol.

Lab. No. 5686, Insp. No. 5066. "Cider." Found to contain 8 per cent alcohol.

Lab. No. 5687, Insp. No. 5067. "Mayer's Walnut Oil Hair Color Restorer." Manufactured by the Mayer Walnut Oil Company, Kansas City, Mo. Preparation was declared by the manufacturer to be "compounded from walnut juice, vegetable oil, containing color matters that are not injurious to either hair or beard." Sample was found to contain water, ammonia, fixed oil, a silver salt. Misbranded.

Lab. No. 5707, Insp. No. 80252. "Tona Vita." Sample was found to contain 18 per cent alcohol, methyl salicylate and phosphates, calculated as sodium acid phosphate, 120 grs. per 100 cc.

Lab. No. 5709, Insp. No. 80254. "Milk's Emulsion." E. R. Wheeler, Galena. Stated on package that Milk's Emulsion cures stomach trouble, constipation, colds, coughs, bronchitis, asthma, lung trouble and general debility; that it permanently cures

stomach trouble and constipation; that it cures nervousness, sourness, belching, bad dreams, acute stomach pains or colic, feeling of fullness after meals, coated tongue, indigestion, heartburn, yellow skin, catarrh of the stomach, constipation, piles and similar diseases of the bowels and rectum; that it stops croup immediately. Stated on circular in package: "We guarantee an absolute cure in all cases of lung trouble when the patient has half of both lungs or all of one lung left." Stated on label on bottle: "Cure for consumption, cure stomach trouble in any form, constipation, bronchitis, asthma, coughs, colds, croup, and catarrh of the throat, lungs, stomach and bowels." Milk's Emulsion was found to contain vaseline, methyl salicylate and a small amount of oil of sassafras.

Lab. No. 5712, Insp. No. 5068. "Salve." Sent to the laboratory by Dr. J. M. Eagle, inspector, Kansas City, Kan. Sample of salve was found to contain, quinine sulphate, vaseline and powdered orris root.

Lab. No. 5712a, Insp. No. 5069. "Salve." Sent to the laboratory by Dr. J. M. Eagle, inspector, Kansas City, Kan. Was found to contain quinine sulphate, vaseline and powdered orris root.

Lab. No. 5712b, Insp. No. 5070. "Almond Cream." Sample shows evidence of putrefaction, has repulsive odor, bacteria and molds are present.

Lab. No. 5732, Insp. No. 80275. "Hobart's Herbal Expectorant." Frank Hobart, Topeka. Declared to contain 8 per cent alcohol. Found to contain 6.8 per cent alcohol, syrup of wild cherry, ammonium chloride, chloroform and codiene. The codiene and alcohol are declared on the label but not in the proper place, there being intervening matter, neither are they stated in eight point type as is legally required, but in type less than half that size, about three-point. Presence of chloroform not stated on label. Misbranded.

Lab. No. 5736, Insp. No. 5072. "Medicine used in treatment of the horse plague." Found to be santonin.

Lab. No. 5737, Insp. No. 5073. Medicine used in treatment of horse plague. Sample was found to be aloes.

Lab. No. 5740, Insp. No. 23 D. "Kellogg's Sanitone Wafers." F. J. Kellogg Company, Battle Creek, Mich. Declared by manufacturer to be the "greatest nerve strengthener known to science." Tablets coated with sugar and calcium carbonate, weigh about .983 gms. and found to contain chromium salt and phenolphthalein.

Lab. No. 5741, Insp. No. —. "Bor-Oxy-Gen." Peroxide Specialty Company, St. Louis, Mo. Contained 3.04 per cent hydrogen peroxide. Total solids in 100 cc., .7240. Sample contains about .8787 gms. of boric acid in 100 cc.

BULLETIN

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S. J. CRUMBINE, M. D., Secretary and Editor.

W. J. V. DEACON, Registrar.

No. 2.

FEBRUARY, 1913.

VOL. VII

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“The first duty of a statesman is to preserve the public health.”
—Gladstone.

“The care of the public health has become the first duty of the
state.”—Mayo.

Pertinent Questions.

“Why conserve tree life and plant life and neglect human life?”

“Why conserve coal mines and not conserve the life of the coal
miner?”

“Why protect pigs and forget the children?”—Senator Owen,
of Oklahoma.

“No rogue e'er felt the halter draw, with good opinion of the
law.”—Shakespeare.

“Why conserve the life of the forest and not conserve the life
of the forester and his children?”

“Why protect cattle from Texas fever and not protect people
from typhoid and malarial fever?”

“Why conserve the life of trees and fight the San José scale,
and not conserve the people who eat the oranges?”

VITAL STATISTICS

**Reported to the Kansas State Board of Health for January,
1913.**

CONTAGIOUS AND INFECTIOUS DISEASES.

[illegible]

CONTAGIOUS AND INFECTIOUS DISEASES—Concluded.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.
Miami	0	0	0	0	0	0	0	0	0	0
* Mitchell	0	0	0	0	4	0	9	0	5	0
Montgomery	1	0	7	2	1	0	0	0	2	0
Morris	0	0	0	0	0	0	0	0	0	0
Morton	0	0	2	0	11	0	0	0	0	0
Nemaha	1	0	0	0	0	0	0	0	1	0
Neosho	0	0	0	0	0	0	0	0	0	0
* Ness	0	0	0	0	0	0	0	0	0	0
Norton	0	0	2	0	0	0	0	0	0	0
Osage	0	0	0	0	4	0	6	0	1	0
Osborne	0	0	1	0	3	0	0	0	0	0
Ottawa	0	0	0	0	0	0	0	0	0	0
Pawnee	0	0	2	0	0	0	0	0	0	0
Phillips	0	0	0	0	4	0	0	0	0	0
Pottawatomie	4	0	0	0	0	0	0	0	0	0
Pratt	0	0	0	0	1	0	1	0	0	0
Rawlins	0	0	0	0	26	0	0	0	0	0
Reno	0	0	0	0	4	0	0	0	0	0
Republic	0	0	0	0	1	0	0	0	1	0
Rice	0	0	0	0	0	0	0	0	0	0
Riley	0	0	0	0	5	0	0	0	10	0
Rooks	0	0	0	0	0	0	0	0	1	0
Rush	0	0	0	0	1	0	0	0	0	0
Russell	0	0	2	0	0	0	0	0	0	0
Saline	0	0	0	0	6	0	0	0	0	0
Scott	0	0	0	0	2	0	0	0	0	0
Sedgwick	0	0	0	0	3	0	0	0	0	0
Seward	0	0	0	0	2	0	0	0	20	0
Shawnee	0	0	0	0	0	0	4	0	0	0
Sheridan	0	0	0	0	0	0	0	0	0	0
Sherman	0	0	0	0	5	0	0	0	0	0
Smith	0	0	0	0	0	0	0	0	0	0
Stafford	0	0	0	0	0	0	0	0	0	0
* Stanton	0	0	0	0	0	0	0	0	0	0
Stevens	0	0	0	0	0	0	1	0	0	0
* Sumner	0	0	0	0	0	0	0	0	0	0
Thomas	0	0	0	0	0	0	0	0	2	0
* Trego	0	0	0	0	0	0	0	0	0	0
Wabanssee	0	0	0	0	0	0	0	0	0	0
Wallace	0	0	0	0	0	0	0	0	0	0
Washington	0	0	0	0	0	0	0	0	0	0
Wichita	0	0	0	0	2	0	0	0	0	0
Wilson	0	0	0	0	0	0	0	0	0	0
Woodson	0	0	0	0	1	0	0	0	0	0
Wyandotte	0	0	0	0	0	0	0	0	0	0
Cities:										
Atchison	1	0	1	0	0	0	0	0	2	0
Coffeyville	0	0	1	0	0	0	0	0	0	0
Fort Scott	2	0	0	0	4	0	0	0	0	0
Hutchinson	1	0	0	0	1	0	0	0	0	0
Independence	0	0	0	0	0	0	0	0	0	0
Kansas City	5	0	17	0	13	0	1	0	54	0
Lawrence	0	0	0	0	0	0	0	0	0	0
Leavenworth	0	0	2	0	9	0	1	0	1	0
Parsons	0	0	1	0	4	0	0	0	1	0
Pittsburg	0	0	3	2	2	0	1	0	0	0
Topeka	0	0	5	0	5	0	0	0	45	0
Wichita	0	0	3	1	32	0	1	0	3	0

* No report.

"Our national health is physically our greatest national asset."
—Roosevelt.

"But I believe that the conservation of men and women is of paramount importance in this world."—William Jennings Bryan.

FOOD ANALYSIS No. XLI.

By PROF. E. H. S. BAILEY, Ph. D., Chemist for the State Board of Health.

CANNED GOODS.

In the last food report it was pointed out that tin is dissolved from the can in excessive amount, much more frequently and to a greater extent in the case of spoiled and inferior canned goods than in the case of canned fruit of high quality and that which is not fermented. The following is a notable case of high tin content:

Insp. No. 9818. Label, "Rialto Brand Peaches." Manufacturer, Rialto Packing Company, San Francisco, Cal.; retailer, M. L. Probet, Pittsburg, Kan. Description: Old stock; can was eaten through in several places at the top and showed tiny holes through which gas was escaping and which called attention to the can in the laboratory. The fruit was pale, inferior and soured; flesh of fruit soft and spongy and showed decayed spots; juice was cloudy and full of suspended matter; the inside of the can was badly etched, and had a dull appearance as though most of the tin had been removed. Tin content: The pulp was analyzed separately from the juice, and contained 1.67 grams of tin as metal in each kilogram of fruit. This is five and a half times the maximum amount allowed by the national authorities in canned food.

Insp. No. 9854. Label, "Cycle Brand Peaches." This label bore a picture of a full-sized peach in natural colors, and gave the impression of very luscious canned peaches. Distributors, The Davis Mercantile Company, Topeka. Description: In one can containing sliced peaches there were forty-eight pieces which showed marked signs of rotting, the flesh being discolored by the rotting. The decayed parts were deep seated in the flesh, showing that the peaches were unfit for food at the time they were canned. History, furnished by inspector: These goods were originally Pa-Da-Ra brand lemon cling peaches, guaranteed by The Davis Mercantile Company under the food and drugs law, June, 1906. These had spoiled in the cans and had been reprocessed; that is, had been punctured to let the gas out, had been resoldered and reheated in the attempt to stop fermentation. After that they had been relabeled by the Davis Mercantile Company with the bright, clean, attractive label described above. This label did not show who packed the goods, it did not guarantee them, and did not state that they were spoiled peaches which had been recooked, therefore it obviously was intended to deceive and mislead the purchaser. Ninety-four dozen

cans were so treated. Even the second cooking failed to make many of these spoiled goods keep, for later they were found fermenting and bursting, both in our own laboratory and in various places where they were stored by retailers or inspector. The fruit from many cans is now held preserved in glass jars in alcohol, and very nicely shows the decayed nature of the fruit as originally canned.

Insp. No. 9855. Label, "Cycle Brand Peaches." Distributor, Davis Mercantile Company, Topeka. Description: Very low grade goods; several pieces of peaches showed rotten or decayed spots; the fruit was so soft it sometimes fell apart when one tried to lift it from the can; many flakes of rust were found suspended in the juice.

Insp. No. 9855A. Label, "Pa-Da-Ra Brand Lemon Cling Peaches. Guaranteed by Davis Mercantile Company under food and drugs law, June, 1906." Distributor, The Davis Mercantile Company. Description: "From canning factory where reprocessed 6-17-12, reprocessed about a week ago, swelled and burst since."

ICE CREAM.

For the better understanding of the following report on ice cream the state standard is inserted as follows:

"Ice cream is a frozen product made from cream and sugar, with or without flavoring, and contains not less than fourteen (14) per cent of milk fat."

The standards for fruit and nut ice cream are the same except that sound, clean fruit and nuts must be used and the milk fat is not less than 12 per cent.

These standards do not admit of anything other than mentioned. The gelatine and gum tragacanth mentioned as being present in some samples are one or the other or both always present when little cream has been used and they thicken the product and make it have the appearance of being rich when it is poor in cream. They thus cover up inferiority. Sometimes they are present in ice cream which contains enough milk fat, and then it keeps the ice cream in a porous, fluffy state and prevents its settling if carried considerable distances. It is well known that only the ingredients mentioned in the standard are necessary to make a high-grade product.

Insp. No. 28. Milk fat 16 per cent. Passed.

Insp. No. 9812. Label, "Ice Cream." Manufacturer, C. Catrokis, Coffeyville; retailer, C. Catrokis, Coffeyville. Preservative absent, gelatin present; milk fat, 11.4 per cent. Illegal.

Insp. No. 9813. Label, "Ice Cream." Manufacturer, Ice Cream Depot, J. A. Warren, manager, Coffeyville; retailer, J. E. Brogan, Coffeyville. Preservative absent; gelatin and gum tragacanth present; milk fat, 7.3. Illegal.

Insp. No. 9814. Label, "Caramel Ice Cream." Manufacturer, Ice Cream Depot, J. A. Warren, manager, Coffeyville; retailer, J. E. Brogan, Coffeyville. Preservative absent; gelatin and tragacanth present; milk fat, 8.7 per cent. Illegal.

Insp. No. 9815. Label, "Ice Cream." Manufacturer, Sanitary Ice Cream and Milk Co., Coffeyville; retailers, Brinker & Son, Coffeyville. Preservative absent; gelatin and tragacanth present; milk fat, 8.6 per cent. Illegal.

Insp. No. 9816. Label, "Caramel Ice Cream." Manufacturer, Sanitary Ice Cream and Milk Co., Coffeyville; retailer, Brinker & Son, Coffeyville. Preservative absent; gelatin and tragacanth present; milk fat, 14.15 per cent.

Insp. No. 9861. Label, "Ice Cream, Vanilla Flavor." Manufacturer, Geo. H. Fillis, Independence; retailer, same as manufacturer. Milk fat, 11 per cent. Illegal.

Insp. No. 9862. Milk fat, 15.1 per cent. Passed.

Insp. No. 9863. Label, "Ice Cream, Vanilla Flavor." Manufacturer, J. M. Burns, Independence; retailer, same as manufacturer. Milk fat, 13 per cent. Illegal.

Insp. No. 9864. Label, "Ice Cream, Vanilla Flavor." Manufacturer and retailer, same as 9863. Milk fat, 12.8 per cent. Illegal.

Insp. No. 9875. Label, "Ice Cream." Manufacturer, Peter Heinz, Topeka; retailer, Arnold Drug Co., Topeka. Tragacanth present; milk fat, 14 per cent.

Insp. No. 9876. Label, "Ice Cream, Vanilla Flavor." Manufacturer, The Continental Creamery Co., Topeka; retailer, Wm. Green & Son, Topeka. Contains gelatin; milk fat, 16.4 per cent.

Insp. No. 9877. Label, "Ice Cream." Manufacturer, The Ponchartrain Confectionery Co., Topeka; retailer, same as manufacturer. Contains tragacanth; milk fat, 13.6 per cent.

Insp. No. 9878. Label, "Ice Cream, Caramel Nut Ice Cream." Manufacturer and retailer, same as 9877. Contains tragacanth; milk fat, 12 per cent.

Insp. No. 9879. Label, "Ice Cream, Strawberry." Manufacturer, Baughman Bros., Topeka; retailer, G. A. Harmon, Topeka. Vegetable thickener present; milk fat, 12.6 per cent.

Insp. No. 9880. Label, "Ice Cream, Vanilla Flavor." Manufacturer, Geo. Pappas, Parsons; retailer, same as manufacturer.

Contains a thickener; contains evaporated milk; milk fat, 9.8 per cent. Illegal.

Insp. No. 9882. Badly spoiled when received, and per cent of milk fat doubtful.

Insp. No. 9883. Milk fat, 18 per cent. Passed.

Insp. No. 9885. Main label, "Ice Cream, Vanilla." On tag "Frozen Cr. and Milk, 20 per cent Evap. Cremoline body." Manufacturer, Ice Cream Depot, J. A. Warren, manager, Coffeyville; retailer, W. C. Holmes & Son, Parsons. Milk fat, 7.9 per cent. If every one purchasing this product was informed that it was not "ice cream," no one would be deceived. If not, the product is illegal.

Insp. No. 9886. Milk fat, 17.7 per cent. Passed.

Insp. No. 9887. Main label, "5 gal. Vanilla." Following this, in small type about two inches from the first part appear these words: "Frozen Cream and Milk, 20 per cent Vap. Cremoline body." Manufacturer, Ice Cream Depot, Coffeyville; retailer, W. C. Holmes & Son, Parsons. Milk fat, 5 per cent. Same remarks as for 9885.

Insp. No. 9888. Milk fat, 18.4 per cent. Passed.

Insp. No. 9891. Too badly spoiled to test.

Insp. No. 9892. Too badly spoiled to test.

Insp. No. 9893. Milk fat, 16.4 per cent. Passed.

Insp. No. 9894. Badly spoiled when received, and per cent milk fat is doubtful.

Insp. No. 9895. Badly spoiled when received, and per cent milk fat is doubtful.

Insp. No. 9896. Label, "Ice Cream, Vanilla Flavor." Label on container, "Frozen Cr. & Milk, 20% Vap. Cremoline Body." Manufacturer, Ice Cream Depot, Coffeyville; retailer, C. J. Brooker, Cherryvale. Milk fat, 5.6 per cent. About the same remarks apply to this as to 9885.

Insp. No. 9897. Label, "Ice Cream, Vanilla Flavor." Label on container, "Frozen Cr. & Milk, 20% Vap. Cremoline Body." Manufacturer, Ice Cream Depot, Coffeyville; retailer, J. Williams, Cherryvale. Milk fat, 5 per cent. Same remarks as for 9885.

Insp. No. 9898. Milk fat, 15.8 per cent. Passed.

[Insp. No. 70128. Label, "Evap. Apricots, Lee Brank." Jobber, The H. D. Lee Mercantile Co., Salina; retailer, Tucker-Elliott Mercantile Co., Courtland. These were bleached with sulphur dioxide to improve their appearance. They were not so labeled

and hence deceive the consumer, and contained sulphur dioxide largely in excess of that allowed by the federal government. Illegal.

FLAVORING EXTRACTS.

Lemon and orange extracts must each contain 5 per cent of the oil in question to be legal, and to do so must be made with strong alcohol. Such extract when violently shaken do not retain any foam, but an illegal extract may be detected before it is purchased by shaking it. The foam will persist for quite a time.

IMITATION EXTRACTS.

It should also be stated that some extracts are labeled, "Imitation Lemon Flavor," or other words, as the case may be. It would be practically impossible to hold a manufacturer to any definite composition, for who can say how well or how poorly an imitation product must imitate a standard one. A certain class of manufacturers know this and take advantage of it to sell whatever they like. Therefore the public should know that they have no protection in buying an imitation product of any kind. Standard, legal articles have to be of definite composition, and therein the public secures its protection.

Insp. No. 20128. Label, "Orange Flavoring." Manufacturer, American Soda and Baking Powder Company, Chicago, Kansas City, Wichita; retailer, R. C. Bouldin, Manchester. Oil, 1 per cent. Illegal.

Insp. No. 20130. Label, "Spts. Lemon." Manufacturer and retailer, J. N. Ketchersid, Hope. Oil, 1.1 per cent. Illegal.

Insp. No. 6705. Label, "Lemon Extract." Manufacturer, Goodrich Drug Company, Omaha, Neb.; retailer, Peck Bros., Rantoul. Oil, 4.95 per cent. Illegal.

Insp. No. 6707. Label, "Good Luck Imitation Lemon Flavor." Manufacturer, Oyster's Medicine Company, Kansas City, Mo.; retailer, W. F. Sutherland, Osawatomie. Contains no lemon oil.

Insp. No. 70126. Lemon Extract. Coal tar dye absent. Oil, 11.6 per cent. Passed.

Insp. No. 70127. Orange Extract. Coal tar dye absent. Oil, 12 per cent. Passed.

Insp. No. 9839. Label, "American Colored Flavor of Lemon." Manufacturer, American Tea Company, Coffeyville; retailer, American Tea Company. Lemon oil, a trace only. Illegal

MILK.

Insp. No. 9901. Milk fat, 4 per cent. Passed.

Insp. No. 9902. Milk fat, 3.8 per cent. Passed.

OLIVE OIL.

- Insp. No. 20090. Normal by all tests. Passed.
Insp. No. 20106. Normal by all tests. Passed.
Insp. No. 20107. Normal by all tests. Passed.
Insp. No. 20109. Normal by all tests. Passed.
Insp. No. 20127. Normal by all tests. Passed.
Insp. No. 20131. Normal by all tests. Passed.

PICKLES.

- Insp. No. 70057. Free from alum and benzoate of soda. Passed.
Insp. No. 70099. Label, "Haarmann's Superfine Sweet Pickles, Preserved with 0.10 of 1 per cent of Benzoate of Soda." Manufacturer, Haarmann Vinegar and Pickle Co., Omaha, Neb.; retailer, B. A. Throop, Washington. Contains alum and benzoate of soda. Illegal.

- Insp. No. 70100. Label, "Bulk Pickles." Manufacturer, Haarmann Vinegar and Pickle Co., Omaha, Neb.; retailer, B. A. Throop, Washington. Contains alum and benzoate of soda. Illegal.

RICE.

- Insp. No. 70062. Not coated. Passed.
Insp. No. 70084. Label, "Orchard Brand Japan Style Rice." Jobber, Bittmann-Todd Grocer Co., Leavenworth; retailer, Schumacher & Ketter, Kelly. Heavily coated with mineral matter and not so labeled. Illegal.

- Insp. No. 70093. Label, "2½ Lbs. Net Weight Rice. Premium Brand." Packer, Paxton & Gallagher Co., Omaha, Neb.; retailer, Wm. J. Schwartz, Hanover. Heavily coated with mineral matter and not so labeled. Illegal.

- Insp. No. 70106. Label, "Corona Brand Fancy Table Rice." Distributor, Theo. Pohler Mercantile Co., Lawrence and Emporia; retailer, J. A. Green, Olsburg. Heavily coated with mineral matter and not so labeled. Illegal.

POWDERED SUGAR.

- Insp. No. 70060. Free from starch or other adulterant. Passed.
Insp. No. 70071. Free from starch or other adulterant. Passed.
Insp. No. 70092. Free from starch or other adulterant. Passed.

VINEGAR.

- Insp. No. 20174. Label, "Colored Apple Cider Vinegar." Manufacturer, Westmeier & Co., Colby; retailer, Madsen & Son, Atwood. Acid, 2.34 per cent. Illegal.

- Insp. No. 70059. Label, "Vinegar." Manufacturer, Doniphan

Candy Co., St. Joseph, Mo.; retailer, Max Jacobs, Bendena, Kan. Acid, 2.44 per cent. Illegal.

Insp. No. 70097. Label, "Pure Apple Cider Vinegar." Manufacturer, Haarmann Vinegar and Pickle Co., Sioux City, Iowa; retailer, B. A. Throop, Washington. Adulterated by the addition of water. Illegal.

Insp. No. 70098. Label, "Vinegar." Manufacturer, Nebraska City Vinegar Manufacturing Co.; retailer, B. A. Throop, Washington. Adulterated by the addition of water. Illegal.

Insp. No. 70103. Label, "Haarmann's Export Pickling Vinegar." Manufacturer, Haarmann Vinegar and Pickle Co., Omaha, Neb.; retailer, H. C. Jones, Washington. This is a distilled vinegar, although its label would scarcely inform the average consumer of that fact. The inspector furnishes the information that the bottles containing this vinegar were invoiced by the manufacturer as quarts, but that the bottles themselves were stamped as containing twenty-five ounces only. Acid, 7.2 per cent; solids, 0.86 per cent. Passed as distilled vinegar.

Insp. No. 9796. Label, "Cider Vinegar." Jobber, Ranney Davis Mercantile Co., Arkansas City; retailer, J. F. Hostetter, Mulvane. Adulterated by the addition of water. Illegal.

Insp. No. 9806. Label, "Pure Cider Vinegar." Manufacturer, Earle Manufacturing Co., Kansas City, Mo.; retailer, L. G. Dowell, Bartlett. Acid, 3.88. Illegal.

Insp. No. 9810B. Label, "Vinegar." Sample of vinegar furnished State Hospital for Epileptics, Parsons, from June letting, by Otto Kuehne. Manufacturer and retailer, Otto Kuehne Preserving Co., Topeka. Adulterated by the addition of water. Illegal.

Insp. No. 9810C. Label, "Vinegar." Vinegar furnished School for the Blind by Otto Kuehne, June letting, 1912. Manufacturer and retailer, Otto Kuehne Preserving Co., Topeka. Adulterated by the addition of water. Illegal.

Insp. No. 9810D. Label, "Vinegar." Sample of vinegar taken from barrel received August 1, 1912, Boys' Industrial School, Topeka. Manufacturer and retailer, Otto Kuehne Preserving Co., Topeka. Adulterated by the addition of water. Illegal.

Insp. No. 9810E. Label, "Vinegar." Sample of vinegar from Girls' Industrial School, Beloit. Furnished by Otto Kuehne Preserving Co., Topeka, during month of July, 1912. Manufacturer

and retailer, Otto Kuehne Preserving Co., Topeka. Adulterated by the addition of water. Illegal.

Insp. No. 9911. Candy. Sample too small for analysis.

Alcohol in Ciders.

By Prof. H. LOUIS JACKSON, Analyst to the State Board of Health.

The frequency with which the food inspectors find so-called cider selling in Kansas, coupled with the facts that the products are almost never true cider and that they usually contain a high per cent of alcohol, has led to the belief that they were merely a convenient vehicle for the sale of intoxicating beverages in a prohibition state.

How these products compare with beer and wine is seen from the following facts: In seventy-six samples of American malt liquors the average alcoholic content was 5.61, and the highest 7.85. Of fifteen other samples the highest alcoholic content in beer was 7.07, and the average 4.45; the highest in ale was 5.37, and the average was 4.49.

Analyses of German, French, Austrian, Russian, Italian and Spanish wines given by König show the lowest alcoholic content to be 5.94, and the highest 15.77, while out of sixteen samples nine, or over half of the samples, were below 10.3 per cent of alcohol by volume.

Of the 31 products listed below of those containing alcohol there are:

1, 2 per cent alcohol.....one	6, 8 per cent alcohol...fifteen
2, 4 per cent alcohol.....two	8, 10 per cent alcohol...three
4, 6 per cent alcohol.....eight	10, 12 per cent alcohol...two

Therefore, over 74 per cent of them contain from 4 to 8 per cent of alcohol, or as much as strong beer and ale, while five run from 8 to 12 per cent, which is as high as many foreign wines.

It is believed that the officials and citizens of Kansas have not been fully aware of these facts. Therefore, the following list has been compiled from the records of the food laboratory of the University of Kansas. As these products are apparently on sale freely and may be consumed by boys with disastrous results, because of a lack of knowledge on their part of their intoxicating nature, it is thought that some communities may wish to stop their sale.

No.	Substance.	Alcohol, per cent.	Retailer.	Through—	Manufacturer.
2	Grape cider...	7.44	Drake Bros., Ness City...	Dr. D.G. Edgerton.	
3	Peach cider...	1.45	Drake Bros., Ness City...	Dr. D.G. Edgerton.	
3431 B	Cider.....	5.99	Peg McClaffarty's		
3432 B	Cider.....	5.92	Peg McClaffarty's		
5085 B	Cider.....	8.40	—, Plainville...	Doctor Miller	
6455	Cider.....	6.25	W. R. Dougherty, La Harpe...		Clarksville Cider Co., St. Louis, Mo.
6632	Apricot cider; imitation.....	6.80	W. A. Van Horne, Larned...		Frisco Cider Co., St. Louis, Mo.
7799	Apple base cider.....	8.20	Byron Willcuts, Topeka...		National Fruit Products Co., Memphis, Tenn.
9349	Pure cider....	5.73	B. F. Binder, Wa Keeney...		Monarch Vinegar Wks. Kansas City, Mo.
9360	Apple base cider dark; grape flavor,	7.25	J. A. Freeman, Topeka		National Fruit Products Co., Memphis, Tenn.
9360 A	Apple base cider.....	7.12	J. P. Warmeringer, Sharon Springs...	Dr. W. J. Scott...	National Fruit Products Co., Memphis, Tenn.
9382	Apple cider....	6.98	F. L. Shumway, Mayetta		National Fruit Products Co., Memphis, Tenn.
9383	Apple cider....	5.41	F. L. Shumway, Mayetta		National Fruit Products Co., Memphis, Tenn.
9383 A	Blackberry cider.....	7.25	Backhus Bros., Winfield		Red Cross Vinegar Co., St. Louis, Mo.
9506	Apple cider....	7.72	James Trimble, jr., Agenda		Mueller-Keller Candy Co., St. Joseph, Mo.
9507	Cherry cider...	7.32	James Trimble, jr., Agenda		Mueller-Keller Candy Co., St. Joseph, Mo.
9598	Artificial crab apple cider..	7.57	Waters Merc. Co., Levant...		Colby Bottling Works, Colby, Kan.
9641	Apple cider....	10.30	Charles McGill, Wetmore...		Frisco Cider Co., St. Louis, Mo.
9649	Imitation peach cider.	6.11	Alfonso Villorrial, Horton...		Frisco Cider Co., St. Louis, Mo.
9650	Crab apple cider.....	5.63	Alfonso Villorrial, Horton...		Frisco Cider Co., St. Louis, Mo.
7614	Apple cider....	6.58	Drake Bros., Ness City...		Doniphane & Co., St. Joseph, Mo.
7616	Cherry cider...	3.66	Drake Bros., Ness City...		C. E. Potts Drug Co., Wichita.
7617	Grape cider....	8.86	Drake Bros., Ness City...		
9795	Apple base cider.....	5.90	H. Kempling, Garden Plain...		H. B. Allen Bottling Works, Wichita.
9965	Apple cider....	10.80	O. J. Wymer, Greensburg...		Frisco Cider Co., St. Louis, Mo.
9961	Apple base cider.....	3.25	A. H. Lock, Norwich		Allen Bottling Co., Wichita.
90002	Blackberry cider.....	6.86	M. Paulin, Wichita		Los Angeles Fruit Pro. Co. St. Louis.
90003	Grape cider....	6.10	M. Paulin, Wichita		Los Angeles Fruit Pro. Co. St. Louis.
90004	Peach cider....	5.47	M. Paulin, Wichita		Los Angeles Fruit Pro. Co. St. Louis.
90005	Apple cider....	5.86	M. Paulin, Wichita		Los Angeles Fruit Pro. Co. St. Louis.
90019	Cherry cider...	6.78	Murray & McFarland, Wichita...		Los Angeles Fruit Pro. Co., St. Louis.

High, 10.80; next, 10.30; low, 1.45; average, 6.61.

Prescription Fakes and Health and Beauty Talks.

A FAKE "ANSWERS TO CORRESPONDENTS" DEPARTMENT.

One of the "features" of the modern metropolitan daily is the "Woman's Page," in which is given, for the education or delectation of feminine readers, reading matter that ranges from the useful to the inane. Naturally enough, we find the important subject of care of the health learnedly (?) discussed by the "Madames" or "Mademoiselles" who have charge of these departments. To the "patent medicine" advertiser who would deceive the reader by publishing his advertisement in "reading matter" style, space on these "Woman's Pages" is a valuable asset. A form of deceptive advertisement that of late has become very popular with nostrum exploiters has previously been referred to in these columns as "prescription fakes." The advertisements are usually set as reading matter, and contain information regarding the treatment of some physical ailment by means of the drugs contained in an innocent looking formula; usually all the drugs but one are official, the exception being a "patent medicine" with a name not unlike the pharmacopoeial preparations. A modification of the "prescription fake" type of advertisement forms the subject of this article."

Every week or so "Mrs. Mae Martyn's" fake department will appear in the paper, the initials of the "correspondents" and the wording of the "answers" varying, but the usual changes being rung on spurmax, crystos, almozoin, canthrox, quinola, parnotis, kardene and luxor.

Should the innocent reader go to the drug store and ask, say, for four ounces of spurmax, she is given the inevitable "original package," consisting of a tin box bearing a label with the name of the preparation, the method of using it and the various conditions for which the nostrum is recommended. There is also the statement, "Made by H. S. Peterson & Co., 95-97 Kinzie St., Chicago." The company putting out these medicinal agents is not a firm of pharmaceutical chemists, but, we understand, manufactures flavoring extracts and does business largely by means of women agents throughout the country.

Four of these deceptively advertised nostrums were analyzed in the Association's laboratory. The laboratory report follows:

ALMOZOIN.

Almozoin, as found on the market, is a pale pinkish-white powder, having a faint odor like benzaldehyd. Qualitative examination of almozoin demonstrated the presence of magnesium, sodium, tragacanth, a carbonate and a borate. Free boric acid, ammonium salts and sulphates were absent. Magnesium and the borate radicle were determined and the tragacanth was approximately estimated. From the results of the examination it would appear that the composition of almozoin is essentially as follows:

Tragacanth (gum tragacanth).....	40 per cent
Sodium borax (borax)	40 per cent
Magnesium carbonate.....	20 per cent

(Retail price of almozoin, one-half dollar; estimated cost of ingredients, three cents.)

CRYSTOS.

The specimen package of crystos which was purchased contained about one ounce and was a coarse, white, odorless powder. Qualitative tests demonstrated the presence of chlorid, free boric acid, borate, sodium and traces of sulphate. Alkaloids, ammonium salts, carbonates, heavy metals and potassium were absent. Determinations of chlorid and of free and of combined boric acid were made, from which it would appear that the composition of crystos is about as follows:

Dried sodium borate (dried borax).....	20 per cent
Sodium chlorid (common salt)	20 per cent
Boric acid.....	60 per cent

(Retail price of crystos, one-half dollar; estimated cost of ingredients, one cent.)

PARNOTIS.

Parnotis is a pale, cream-colored, fine powder, having an odor resembling cologne, which dissolves in water and forms a turbid solution, which becomes clear by filtration. Qualitative examination of the preparation demonstrated the presence of bicarbonate, sulphate, sodium and traces of chlorid and of iron. Quantitative determinations of the sulphate and of the bicarbonate were made, from the results of which it would appear that parnotis consists essentially of:

Impure anhydrous sodium sulphate.....	25 per cent
Sodium bicarbonate.....	75 per cent

(Retail price of parnotis, one-half dollar; estimated cost of ingredients, less than two cents.)

SPURMAX.

Spurmax is a pink, crystalline powder, highly perfumed. Qualitative tests demonstrated the presence of magnesium and of a sulphate. The absence of more than traces of chlorid, carbonate, organic compounds and heavy metals was shown by the usual tests. Quantitative determinations were made for magnesium, for sulphate and for water. Microscopic examination indicated that the coloring matter was very unevenly distributed throughout the preparation, some crystals being colorless, while others were very highly colored. Essentially, spurmax consists of:

Crystallized magnesium sulphate (Epsom salts).....	100 per cent.
Perfume.....	Trace.
Coloring matter.....	Trace.

(Retail price of spurmax, one-half dollar; estimated cost of ingredients, one cent.)

NEW FORM OF AN OLD TRICK.

Spurmax, then, when subjected to the critical light of analysis and shorn of the hypothetical virtues with which "Mrs. Mae Martyn" invests it, proves to be Epsom salts colored pink and rendered highly odoriferous; the "flesh reducer that . . . should reduce your weight ten pounds in a few weeks" contains, apparently, nothing more marvelous than sulphate and carbonate of soda—and so it goes. The old, old trick of the charlatan, the quack and the nostrum exploiter is again in evidence. Give some well-known drug a fancy name, disguise it physically if possible, advertise it as possessing marvelous virtues and sell it at a price out of all proportion to its value.—*Oregon Bulletin*.

"HEALTH AND BEAUTY TALKS."

For several months past many newspapers have been carrying on the "woman's page" what, to the uninitiated, appears to be a department devoted to answering queries regarding health. The "department" is entitled "Health and Beauty Talks," or "Health and Beauty Helps," or "Aids," or "Secrets"—the last word of the title varying with the copy. Under the title is the legend, "By Mrs. Mae Martyn." The subject matter consists of information (?) on questions of health, given in the "answers to correspondents" form; the first and last "answer" usually makes reference to none but simple home remedies or pharmacopœial preparations. For instance:

"Q. 1. A good foot wash is made of a pint of water, to which is added a tablespoonful of salt and a pinch of alum and a few drops of arnica."

Every other "answer," however, contains a "joker" in the form of nostrum which is referred to in such a way as to lead the unsuspecting reader to imagine that it is but an ordinary official drug. Thus, in the advertisement before us, there are nine replies. Here is a sample:

"Ethel J.: (1) It made me happy to read your letter. I am glad you think so well of my recipes that you cut them out and pass them along to your friends. None should have difficulty in getting from her druggist any ingredient I name, for I never advise use of anything that is not sold in first-class drug stores everywhere. (2) The only objection I know to the use of liquid complexion beautifiers is their high cost when purchased in a ready manufactured state. You can make at home a fine 'liquid powder' that softens and whitens the skin by putting two teaspoonfuls of glycerin and four ounces of spurmax in one-half pint of boiling water; let stand until cold. Apply with the palm of the hand and rub until dry. I prefer this spurmax wash to any face powder I can buy."

The "joker" in this "answer," of course, is spurmax. In the other "replies," all worded in the same deceptive way, the reader is urged to get—

Crystos—"For tired and inflamed eyes."

Almozoin—"For blackheads, . . . freckles and tan."

Canthrox—"For shampooing purposes."

Quinola—"To remove dandruff, stop falling hair, relieve itching . . . and promote the growth of hair."

Parnotis—"A flesh reducer that . . . should reduce your weight ten pounds in a few weeks."

Kardene—"A splendid blood tonic and liver invigorator . . . for pimples, yellow blotches, sallow complexion, scrofula and all eruptions of the skin."

Luxor—"A very dear friend of mine cured a most obstinate case of eczema with this remedy."

BULLETIN

OF THE

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S. J. CRUMBINE, M. D., Secretary and Editor.

W. J. V. DEACON, Registrar.

No. 3.

MARCH, 1913.

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“Finger-nail biters—bacteria eaters.”

“Fire waste can be replaced, but life waste is irrevocably gone.”

“Joy, temperance and repose, slam the door on the doctor’s nose.”—*Longfellow.*

“The old oaken bucket—fine sentiment, but abominable sanitation.”

“Breathe through your nose and keep your mouth closed. The latter precaution may likewise keep you out of trouble.”—*Buffalo Bulletin.*

“When a congregation sleeps peacefully through a sermon, the air of the church should be examined before sending out an S. O. S. call for a new pilot.”—*Cincinnati Report.*

The money spent in Kansas every year for funerals and for treating typhoid fever would be enough to banish the disease from the state if used in well-known measures of prevention.

“Men who are occupied in the restoration of health to other men, by the joint exertion of skill and humanity, are above all the great of the earth. They even partake of divinity, since to preserve and renew is almost as great as to create.”—*Voltaire.*

“Infant mortality is the most sensitive index we possess of social welfare.”—*Newsholme.*

CONTAGIOUS AND INFECTIOUS DISEASES—Concluded.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.
Miami.....	0	0	0	0	0	0	0	0	0	0
Mitchell.....	1	0	1	0	0	0	0	0	0	0
Montgomery.....	1	0	0	0	3	1	0	0	1	0
* Morris.....	0	0	0	0	0	0	0	0	0	0
Morton.....	0	0	0	0	0	0	0	0	0	0
Nemaha.....	0	0	1	0	4	0	0	0	0	0
Neosho.....	0	0	0	0	0	0	0	0	0	0
Ness.....	0	0	0	0	0	0	0	0	0	0
Norton.....	0	0	0	0	2	0	0	0	1	0
Osage.....	0	0	0	0	0	0	0	0	15	0
Osborne.....	0	0	0	0	4	0	0	0	2	0
Ottawa.....	0	0	0	0	0	0	0	0	2	0
Pawnee.....	0	0	0	0	5	0	0	0	1	0
Phillips.....	0	0	0	0	2	0	0	0	0	0
Pottawatomie.....	0	0	0	0	2	0	4	1	0	0
* Pratt.....	0	0	0	0	11	0	17	0	5	1
Rawlins.....	0	0	0	0	1	0	1	0	0	0
Reno.....	0	0	0	0	1	0	0	0	1	0
Republic.....	0	0	0	0	2	0	0	0	0	0
Rice.....	0	0	0	0	0	0	0	0	0	0
Riley.....	0	0	2	0	0	0	7	0	152	0
Rooks.....	0	0	0	0	1	0	0	0	0	0
Rush.....	0	0	0	0	10	0	0	0	20	0
Russell.....	0	0	0	0	5	0	2	0	0	0
Salline.....	0	0	0	0	1	0	0	0	0	0
Scott.....	0	0	0	0	0	0	0	0	1	0
Sedgwick.....	0	0	0	0	0	0	0	0	0	0
Seward.....	0	0	0	0	1	0	0	0	0	0
Shawnee.....	0	0	0	0	8	0	0	0	36	0
Sheridan.....	0	0	0	0	0	0	6	0	0	0
Sherman.....	0	0	0	0	0	0	0	0	0	0
Smith.....	0	0	6	1	4	0	0	0	0	0
Stafford.....	0	0	0	0	0	0	0	0	0	0
Stanton.....	0	0	0	0	0	0	0	0	0	0
Stevens.....	0	0	0	0	0	0	0	0	0	0
Sumner.....	2	0	0	0	3	0	0	0	0	0
Thomas.....	1	0	0	0	0	0	1	0	0	0
Trego.....	0	0	0	0	0	0	0	0	0	0
Wabaunsee.....	0	0	0	0	0	0	0	0	10	0
Wallace.....	0	0	0	0	0	0	4	0	1	0
Washington.....	0	0	1	0	0	0	0	0	2	0
Wichita.....	0	0	0	0	0	0	0	0	0	0
Wilson.....	0	0	0	0	3	0	2	0	0	0
Woodson.....	0	0	1	1	0	0	0	0	2	0
Wyandotte.....	0	0	1	0	0	0	2	0	0	0
Cities:										
Atchison.....	7	2	1	0	0	0	0	0	0	0
Coffeyville.....	0	0	0	0	2	0	0	0	0	0
Fort Scott.....	1	1	0	0	0	0	0	0	0	0
Hutchinson.....	9	1	0	0	0	0	0	0	0	0
Independence.....	0	0	0	0	0	0	0	0	0	0
Kansas City.....	2	0	11	0	5	0	4	0	259	0
Lawrence.....	0	0	0	0	0	0	0	0	0	0
Leavenworth.....	0	0	2	0	13	0	0	0	3	0
Parsons.....	1	0	2	0	16	0	3	0	0	0
Pittsburg.....	0	0	1	0	3	0	0	0	2	0
Topeka.....	0	0	3	0	7	0	0	0	224	0
Wichita.....	1	1	1	0	6	0	0	0	8	0

* No report from county health officer.

DRUG ANALYSIS, XLIV.

L. E. SAYRE, Director; L. D. HAVENHILL, Chief; G. N. WATSON, Analyst;
C. M. STERLING, Microscopist.

The report of the analytical department of the Drug Laboratory presents herewith an analysis of a group of official preparations and proprietaries, as have been received from various inspectors.

The attention of dealers in such articles as witch hazel should be called to this article, and to the fact that it should contain about 14.2 per cent of absolute alcohol. While there are some articles on the market which practically reach this standard, it will be seen that there are others that fall far below the percentage named. Inasmuch as this article is used as a stimulating local application, partly dependent on not only the alcoholic content, but certain organic principles which are prevented from deterioration by the presence of alcohol, it is quite essential that the percentage of this spirit should be maintained at about the maximum named.

Bay rum is practically a toilet preparation, but even toilet preparations have a standard which is important from a medical point of view. This importance is not appreciated by the unskilled in medicine, hence the danger of having such goods sold promiscuously where the chances of supervision are slight. The same remarks imply to the preparation known as hydrogen peroxide. While this, as ordinarily prepared, is not a poisonous article, and as frequently used not a medicinal substance, nevertheless it is a medicine, and may become poisonous through deterioration, etc. Such agents as hydrogen peroxide should be placed, for the proper protection of the public, in the hands of a special class, whose legal obligation is to keep standard materials and where inspection and guardianship is readily secured. It will be noticed from the list of hydrogen peroxides examined that some of these preparations have deteriorated slightly. There is a prevailing opinion among manufacturers that hydrogen peroxide should be dated, and that the time limit for it as a marketable article should be six months. A symposium upon this whole subject, discussed by eminent pharmaceutical chemists, can be found in the *Pharmaceutical Era*, January, 1913, page 12.

ELIXIR OF IRON, QUININE AND STRYCHNINE PHOSPHATE.

It is presumed that pharmacists are aware that in the price lists there are advertised this tonic elixir of different strengths of quinine. It is needless to say that the only preparation which would

be passed as legal is that responding to the requirements of the Pharmacopœia.

The present report is full of interest because it contains such a variety of material, and the analyses of these show the practical value of the food and drugs law. It should be stated, however, that drug inspectors collect for analysis mainly suspected material. It is the adoption of this policy that makes the percentage of adulteration and misbranding appear as high as it does. The facts are, however, that the quality and purity of drugs and medicinal preparations are constantly improving and reaching close to the standard.

L. E. S.

TINCTURE OF FERRIC CHLORIDE.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Per cent metallic iron.	Nitric acid.
5714	80257	A. W. Tracey.....	North Topeka..	0.968	4.73	Absent.
5720	80263	Home Drug Store.....	Topeka.....	1.000	4.42	Absent.

*Tincture of ferric chloride should have specific gravity of about 1.005; should contain not less than 13.23 per cent of the anhydrous salts corresponding to 4.58 per cent of metallic iron. Nitric acid should not be present.

WITCH HAZEL.*

Lab. No.	Insp. No.	NAME.	City.	Alcohol.	Methyl alcohol.	Remarks.
5802	20284	Davis Drug Co.....	Wichita.....	12.5	Absent.	S. W. D. Co., jobbers.
5806	20298	Johnson Drug Co.....	Sadgwick.....	13.8	Absent.	Goodrich Drug Co., manf., Omaha.
5815	20808	S. H. Kress & Co.....	Wichita.....	13.0	Absent.	Parke & Co., N. Y., alc hol declared 15 per cent.
5818	20817	Woolworth & Co.....	Topeka.....	14.4	Absent.	Alcohol declared 15 per cent.
5819	20817½	Woolworth & Co.....	Topeka.....	7.0	Absent.	Ed. Gerarde, Chicago, manf. Alcohol de- clared 7 per cent.
5821	20319	C. A. Kessler.....	Topeka.....	8.6	Absent.	Queen Perfume Co., Chicago, manf. Al- cohol declared 7 per cent.
5826	20854	Carl Engel Mer. Co....	Manhattan....	None.	None....	Preparation contains about 0.15 of 1 per cent acetic acid. Has slight witch hazel odor. Jobber, C. D. Smith, St. Joseph.
5834	20964	A. B. Carter.....	Valley Falls..	5.6	Absent.	Jobber, Faxon & Gal- lagher. 15 per cent alcohol declared.
5835	20965	J. E. Tutt.....	Valley Falls..	13.5	Absent.	Manf. Chas. M. Rich, N. Y. 15 per cent alcohol declared.
5842	20872	Rob. McMillan.....	Meridan.....	13.7	Absent.	Wheritt-Mize Drug Co., Atchison.
5843	20873	Dr. Alonzo R. Adams,	Easton.....	13.2	Absent.	

*Extract of witch hazel should contain about 14.2 per cent absolute alcohol.

BAY RUM.*

Lab. No.	Insp. No.	NAME.	City.	Alcohol.	Methyl alcohol.	Remarks.
5778	20275	J. D. Kuhl.....	Clearwater ...	55.4	Absent.	Low in oil. Made from conc. bay rum.
5817	20816	Woolworth & Co.....	Topeka	30.2	Absent.	Low in oil. Declared 33.1 per cent alcohol. Manf. by Ed. Gerarde, Chicago.

* Bay rum should contain 56 to 58 per cent alcohol; should contain no sediment, and should compare with the standard preparation in the amount of oil.

HYDROGEN PEROXIDE.*

Lab. No.	Insp. No.	NAME.	City.	Solids.	Per cent. H ₂ O ₂	Cc. N/10H ₂ SO ₄ required.	Barium.	Fluorides.	Arsenic.
5596	20167	Eaton Drug Co.....	Colby	0.022	2.60	2.9	Abs.	Abs.	Abs.
5680	20222	F. D. Eggleston	Kingman	0.022	2.90	0.3	Abs.	Abs.	Abs.
5688	20224	O. E. Gillespie	Garden Plain...	0.083	2.90	4.3	Abs.	Abs.	Abs.
5705	80250	Petit Drug Co.....	Galena.....	0.018	2.86	1.9	Abs.	Abs.	Abs.
†5706	80251	L. G. Harris.....	Galena.....	0.024	0.11	3.6	Abs.	Abs.	Abs.
†5710	80255	S. Campbell.....	Galena.....	0.024	2.93	4.7	Abs.	Abs.	Pres.
5733	80276	Percy Walker.....	Topeka	0.030	2.95	2.5	Abs.	Abs.	Abs.
5746	80279	Mrs. R. M. Bundy.....	Stark	0.000	3.10	2.6	Abs.	Abs.	Abs.
5746	80279	Mrs. R. M. Bundy.....	Stark	0.031	3.07	2.8	Abs.	Abs.	Abs.
5757	20251	Daughtery Drug Co.....	Syracuse.....	0.023	3.00	1.4	Abs.	Abs.	Abs.
5800	80282	A. E. Dunlap.....	Wichita.....	0.025	2.77	1.5	Abs.	Abs.	Abs.
5801	80283	Brogan & Wheeler.....	Wichita.....	0.017	3.92	3.0	Abs.	Abs.	Abs.
5808	80285	R. I. Drug Co.....	Wichita.....	0.030	3.00	2.3	Abs.	Abs.	Abs.
5807	80289	A. McVickar.....	Wichita.....	0.039	2.86	1.8	Abs.	Abs.	Abs.

* Hydrogen peroxide should contain 3 per cent H₂O₂; the total solids from 20 cc. of the preparation should not exceed 0.03; after treating 25 cc. of the solution with 10/N potassium hydroxide, V. S. as directed by Pharmacopoeia, not less than 2.5 cc. of N/10 sulphuric should be required to neutralize. Barium, arsenic, fluorides and heavy metals should not be present.

† Required 10 cc. N/10 KOH instead of 5 cc. as given in U. S. P. assay. Excessively acid.

ESSENCE OF PEPPERMINT.*

Lab. No.	Insp. No.	NAME.	City.	Cc. of oil in 100 cc.	Added water.	Remarks.
5767	20261	Johnson & Dodge.....	Great Bend.....	Trace.	None.	Adulterated.
5777	20279	Rice Bros.....	Ashland	5.6	None.	Adulterated.
5831	20361	Naylor Pharmacy.....	Holton.....	10.9	None.	Passed.
5832	20862	Bacon Drug Co.....	Holton.....	8.0	None.	Below standard.

* Essence of peppermint should contain 10 cc. of oil in 100 cc. of the essence, and no added water.

AROMATIC SPIRIT OF AMMONIA.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Oil.	Per cent ammonia.
5696	20234	Harper Drug Co.....	Harper.....	0.9027	Low.	2.0
5708	80243	W. G. Allen.....	Wier City.....	.8861	Low.	1.1
5725	80268	Lake Pharmacy.....	Topeka.....	.8962	Low.	1.5
5770	20364	A. & A. Drug Co.....	.....	.8920	Low.	1.4

* Aromatic spirit of ammonia should have specific gravity of about 0.900; should contain about 2 per cent NH₃.

LINSEED OIL.*

Lab. No.	Insp. No.	NAME.	City.	Sapon. No.	Specific gr'vity.	Flash test.	Remarks.
5810	20294	Davidson & Case..	Valley Center...	186.70	0.9339	295°	Responds to Liebermann-Storch reaction for rosin and rosin oil. Am. Linseed Co. (Boiled.) Passed.
5813	20305	Dr. E. S. Haworth,	Iola.....	178.30	.928	270°	Responds to Liebermann-Storch reaction for rosin and rosin oil. Dries within 48 hours. (Boiled.)
5822	20350	Ponayo Drug Store	Clay Center....	192.30	.980	285°	Dries within 72 hrs. Passed.
5828	20357	Ernest Fuger....	Wathens.....	192.10	.929	295°	Passed.
5836	20366	Delaware Lumber Company.....	Valley Falls....	191.40	.964	280°	Does not respond to Liebermann-Storch reaction for rosin and rosin oil. Dries within 48 hours. (Boiled.) Passed.
5837	20367	Legler & Son Lumber Co.....	Valley Falls....	188.04	.980	270°	Responds to Liebermann-Storch reaction for rosin and rosin oil. Dries within 48 hours. (Boiled.)
5838	20368	Dr. M. S. McCreight	Oskaloosa.....	71.07	.859	55°	Responds to Liebermann-Storch reaction for rosin and rosin oil. Sample contains a large amount of rosin oil. It does not dry properly, forms sticky coat and can be rubbed off. Labeled "Spurmo Linseed Oil."
5853	.....	Miles Bros.....	Osage City.....	107.29	.875	.....	Responds to Liebermann-Storch reaction for rosin and rosin oil. Dries in 20 hours. Shipped by Great Eastern Oil and Paint Co., Cleveland, Ohio. Below standard.
5854	27D	August Pache....	.....	190.40	.....	.....	Dries in 72 hours. Shipped by McDonald Paint and Glass Co., Kansas City, Mo. Passed.
5854	27D	August Pache....	.....	95.33	.....	.....	Responds to Liebermann-Storch reaction for rosin and rosin oil. Adulterated with mineral oil. Shipped by Hurlburt & Co., Omaha. Misbranded.

*Linseed oil should dry perfectly on glass plate; not more than 1 per cent unsaponifiable matter should be present, and should otherwise conform to standard published in Bulletin No. 5, 1912.

SPIRIT OF CAMPHOR.*

Lab. No.	Insp. No.	NAME.	City.	Camphor in 100 cc.	Added water.	Remarks.
5722	80265	D. R. Osborne	Topeka	9.80	None.	Passed.
5756	20250	R. E. Minn.	Lakin.	8.90	None.	Below standard.
5769	20263	S. C. Arnold.	Hutchinson.	9.40	None.	Below standard.
5774	20276	Dr. R. H. Shippy.	Peck	11.20	None.	Above standard.
5775	20277	Owl Drug Store.	Englewood.	8.60	None.	Below standard.
5776	20278	Dave Phillips.	Coldwater.	8.60	None.	Below standard.
5806	80287	J. L. Buchanan.	Wichita.	10.20	None.	Passed.
5811	20303	E. L. Feagan.	Norwich.	8.85	None.	Below standard.
5923	20351	Jennings Drug Co.	Clay Center.	10.70	None.	Above standard.
5844	80374	City Drug Store.	Havensville.	10.50	None.	Above standard.
5845	20375	Reed's Pharmacy.	Soldier.	8.60	None.	Below standard.

* Spirit of camphor should contain 10 gms. of camphor in 100 cc. of the preparation, and no added water.

ESSENCE OF JAMAICA GINGER.*

Lab. No.	Insp. No.	NAME.	City.	Per cent alcohol.	Capsicum.	Remarks.
5780	80273	Rex Pharmacy.	Topeka.	91.80	None.	
5781	80274	W. H. Wilson.	Topeka.	86.50	None.	
5772	20266	Geo. F. Trump.	Ellinwood.	90.00	None.	
5804	80286	Elk Drug Co.	Wichita.	88.00	None.	Alcohol declared, 95 per cent.
5824	20352	Priest Drug Co.	Clay Center.	71.25	None.	Alcohol declared, 75 per cent.
5829	20358	Wherritt-Mize Drug Co.	Atchison.	68.00	None.	Alcohol declared, 68 per cent.
5839	20369	C. H. Cain.	Tonganoxie.	90.50	None.	
5840	20370	J. W. Radcliff.	Tonganoxie.	91.60	None.	

* Essence of Jamaica ginger should contain about 91 per cent of alcohol, no capsicum or added water.

SOAP LINIMENT.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Gms. soap in 100 cc.	Gms. camphor in 100 cc.	Remarks.
	20253	Bushton Drug Co.	Bushton.	0.8755	5.30	4.37	Passed.
	20262	A. & A. Drug Co.	.....	.8772	5.27	4.69	Passed.

* Soap liniment should contain 4.5 gms. of camphor in 100 cc. and 5.5 to 6 gms. of soap in 100 cc. The specific gravity should be 0.8748 to 0.8852.

ELIXIR OF IRON, QUININE AND STRYCHNINE PHOSPHATE.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Total alkaloids in 100 cc.	Per cent alcohol.
5411	20019	C. W. Engbord.	McPherson.	1.074	0.599	20.7
5699	20237	Delton Sparr.	Bluff City.	1.127	.699	18.8

* Elixir of iron, quinine and strychnine phosphate should have specific gravity of 1.0676; total alkaloids, 0.898 in 100 cc.

AROMATIC SULPHURIC ACID.

Lab. No.	Insp. No.	NAME.	City.	Per cent H ₂ SO ₄ .	Per cent alcohol.
5713	80256	Campbell Drug Co.	North Topeka.	20.9	75.7
5716	80259	Shawnee Drug Store.	Topeka.	20.7	72.7
5724	80367	Postoffice Drug Store.	Topeka.	19.5	72.8

Lab. No. 5507, Insp. No. 20120. "Ointment of Ammoniated Mercury." Lee Gramley, Clay Center. Sample contains 7.54 per cent ammoniated mercury. Below standard.

Lab. No. 5229, Insp. No. 80272. "Solution of Ferric Chloride." Hargis Pharmacy, Topeka. Sample showed by assay 9.85 per cent metallic iron. Nitrates, ferric iron and oxychloride absent. Passed.

Lab. No. 5779, Insp. No. 20281. "Tincture of Iodine." Dr. C. E. Phillips, Zenda. Sample was found to contain 7.3 gms. of iodine and 5.52 gms. of potassium iodide in 100 cc. Passed.

Lab. No. 5827, Insp. No. 20355. "Sweet Spirit of Nitre." Jacob Miller, Wathena. Sample was found to contain 0.85 per cent of ethyl nitrite. Sample was kept in loosely stoppered bottle.

Lab. No. 5806, Insp. No. 80288. "Essence of Pepsin." Dr. Jordan Drug Store, Wichita. U. S. P. assay showed a residue 1.5 cc. of undigested albumin. Passed.

Lab. No. 5833, Insp. No. 20363. "Elixir of Lactated Pepsin." Griffin & Son, Nortonville. U. S. P. assay showed a residue of 11.7 cc. of undigested albumin. Compound digestive elixir was taken as a standard.

Lab. No. 5841, Insp. No. 20371. "Elixir of Lactated Pepsin." Dr. Claude H. Case, Bashor. U. S. P. assay showed 13.8 cc. undigested albumin. Compound digestive elixir was taken as a standard.

Lab. No. 5718, Insp. No. 80261. "Elixir of Poppy Compound." Marshall Bros., Topeka. Sample was found to contain 13 per cent of alcohol. Morphine was present. Negative test for iodides, bromides and meconic acid. Preparation was colored with aniline dyes. Neither morphine nor alcohol declared on label.

Lab. No. 5726, Insp. No. 80269. "Tr. of Poppy Compound." Sample contained 12.7 per cent of alcohol. Morphine, glycerin and salicylic acid were present.

Lab. No. 5109, Insp. No. 2966. "Female Friend." Manufactured by New Era Drug Association, Detroit, Mich. Found to contain 21.78 per cent alcohol. Preparation gives slight test for alkaloids. Preparation declared to contain nux vomica and aloes. If present, they must be in very minute quantities.

Lab. No. 5445, Insp. No. 20067. "Schoenfelt's Pain Relief." J. I. Reeder, Kansas City. Preparation consists chiefly of kerosene. Contains some oil of sassafras, volatile oil of mustard, and capsicum. The package also contained a package of Schoenfelt tea, which consisted of senna, triticum, sassafras, coriander, cala-

mus, urva ursi, glycyrrhiza. hemp seed, etc. Preparation manufactured by S. Pfeiffer, St. Louis.

Lab. No. 5466, Insp. No. 20076. "White Pine." Harry Lilly, Kansas City, retailer; Ethical Drug Company, Kansas City, Mo., wholesaler. Preparation consisted of a reddish, rather thick liquid, with a sweet, tarry taste. Gives a reaction for chloroform. Contains alcohol, morphine and chloroform. These substances were not declared on the label. Misbranded.

Lab. No. 5478, Insp. No. 20098. "Spearline Magio Cough Syrup." Retailer, B. C. Beals, Clearwater. Consists of a Brownish aqueous liquid with a slight supernatant layer of oil. Negative test for alkaloids. Syrup and oil of peppermint were detected. Sample too small for complete analysis.

Lab. No. 5525, Insp. No. 20132. "Orange Exquinta." Heberly Drug Company, Kanopolis. Consists of an emulsion of oil of orange peel and acacia, to be used for making soda-water syrup. There is approximately 43.5 per cent of oil of orange by weight. Orange exquinta sells at the wholesale price of \$6 per pound, which is equivalent to paying \$13.30 a pound for oil of orange. Preparation was manufactured by the Crown Extract Company, New York.

Lab. No. 5665, Insp. No. 20207. "Imitation Oil of Cedar Compound." Chas. Taylor & Company, Liberal. Sample apparently consists of a mixture of oil of turpentine and oil of camphor. Sample miscible in all proportions of 95 per cent alcohol.

Lab. No. 5666, Insp. No. 20208. "Pepsin Tablets." Chas. Taylor, Liberal. Each tablet said to contain 2 grains of pure pepsin. The official assay showed a residue of undigested albumin of 4.6 cc. Tablets, however, had been in the laboratory for about two months.

Lab. No. 5668, Insp. No. 20210. "Oil of Pennyroyal Compound." J. C. Rubb, Fowler. Sample apparently consists of oil of pennyroyal mixed with oil of turpentine. McPike Drug Company, Kansas City, Mo., wholesaler.

Lab. No. 5708, Insp. No. 80253. "Wine of Pomelo." Manufactured by the Irondequoit Wine Company, Rochester, N. Y. Preparation declared to contain alcohol, 17 per cent by volume, 2 grs. of citrate of iron, and 7.5 grs. of cinchona to dose. Preparation was found to contain 16.65 per cent alcohol, 2 grs. of anhydrous ferrous citrate to one tablespoon, and gave test for cinchona alkaloid.

Lab. No. 5738, Insp. No. —. "Oil," said to have been used as preventive of horse plague. Oil has saponification value of 190.6; specific gravity, 0.930; the oil is evidently a mixture of linseed and fish oils. Some water was also present.

Lab. No. 5743, Insp. No. 5074. "Crude Carbolic Acid, 95 per cent." Interstate goods. Sample was found to contain 73.8 per cent phenol.

Lab. No. 5745, Insp. No. 5075. "Hair Tonic." Said to have produced symptoms of Rhus poisoning. Chemical and physiological investigation failed to show Rhus poison. Sample found to contain cinchonine, salicylic acid, water, alcohol and cumarin.

Lab. No. 5754, Insp. No. 20243. "Burdock Tonic Compound." Manufactured by the Brook's Drug Company, Battle Creek, Mich. Declared by the manufacturer to be the "greatest blood purifier, stomach renewer and strength restorer ever prepared." Specific gravity of sample, 1.13. Invert sugar, glycerin, sodium salicylate and burdock were detected. Total solids in 100 cc., 27.69. No alkaloids present.

Lab. No. 5762, Insp. No. 20256. "Kennedy's Laxative Cold Tablets." Found to contain capsicum, camphor, podophyllum, starch, cinchonine, calcium oxide. Ash, 57.4 per cent, principally calcium oxide and silica. Tablets were declared not to contain quinine sulphate. They contain, however, the cheaper alkaloid, cinchonine.

Lab. No. 5778, Insp. No. 20280. "Capsules of Aspirin Compound." C. F. Bucklin, Sawyer. John F. Milliken, St. Louis, manufacturer. The capsules contain about 6 grains, about 5.3 grains of which is aspirin. Determined as acetyl salicylic acid.

Lab. No. 5781, Insp. No. 80281. "Rexall Nice." Sample declared by the manufacturer, United Drug Company, to be a deodorant for excessive perspiration. Sample was a perfumed paste-like mass, composed largely of stearate of zinc. Sample responds to the Gutzeit test for arsenic.

Lab. No. 5782, Insp. No. 32X. "Coffee (Vacuum Treated)." Reichelieu Brand, manufactured by the Sprague-Warner Company, Chicago. Net weight of package, 1 pound. This coffee is declared by the company not to produce the bad effects on its users that are produced by other brands of coffee. The coffee seems to be a good grade; cup test characteristic of best quality of coffee; found to contain about 3.5 per cent moisture and 1.01 per cent of caffeine. It is difficult to see why this coffee would not have the same physiological effect of other coffees.

Lab. No. 5783, Insp. No. 24D. "Donald's Hair Restorer." Manufactured by Donald-Richardson Company, Iowa City. Sample was sent to this laboratory by Mr. Strait, of Winfield, to determine principally why it had changed color. Sample was found to contain 9.5 per cent alcohol; glycerin and salt of iron were present. Change of color was evidently due to the action of the salt of iron on the coloring matter in the preparation.

Lab. No. 5784, Insp. No. ———. "Cider." Sent to laboratory by Mayor Sutphen, Peabody, Kan., to determine its alcoholic content. Sample contained 4 per cent of alcohol.

Lab. No. 5785, Insp. No. ———. "Aspirin Tablets." Sent to laboratory by Dr. J. Wesselowski, Jewell. Gross weight of tablets, 5.73 grains; weight of aspirin in tablets, 4.8 grains. Tablets were declared to contain 5 grains of aspirin. Determined as acetyl salicylic acid.

Lab. No. 5786, Insp. No. ———. "Vinegar." Sent to this laboratory by Mrs. Harry Barnard, Garnett, for information concerning sediment found in vinegar. Sediment was found to be a filamentous growth of the most common acetic acid-forming bacteria.

Lab. No. 5795, Insp. No. ———. "Colic Remedy." Found to contain 90 per cent alcohol. Capsicum and morphine were detected.

Lab. No. 5796, Insp. No. 70191. "Café Special." Reed, Murdock & Company, Chicago, manufacturers. Wm. Berry, Atchison, retailer. Declared by the manufacturer to be a mixture of coffee, rye, sugar, peas, and chicory. Cup test showed characteristic taste of coffee to be unrecognizable. Rye, peas, chicory, small amount of coffee, and sugar, evidently added in form of molasses, were detected.

Lab. No. 5797, Insp. No. ———. "Gall Stone Cure." Brought to laboratory by Mr. A. LeMoine. Sample consisted entirely of sodium phosphate. The preparation was to be used in connection with calomel.

Lab. No. 5798, Insp. No. ———. "Tablets of Iodized Calcium." Sample brought to laboratory by Doctor Smith, Lawrence. Tablets were found to contain about 1.30 grains available iodine, and 0.0078 gm. of calcium iodide per tablet. Calcium iodide, calcium iodate and talc were detected.

Lab. No. 5799, Insp. No. ———. "Calcidin Tablets." Doctor Smith, Lawrence. Sample contained free iodine, very slight amount, calcium oxide, calcium iodide, calcium iodate and starch.

Each tablet contain 0.0195 mg. of available iodine and 0.0192 gms. of calcium iodide.

Lab. No. 5809, Insp. No. 26D. "Fluid Opium Concentrated." J. B. Ira & Son, Lyons. Manufacturer, Eli Lilly & Co., Indianapolis. Claimed to contain 4.8 to 5 gms. of morphine per 100 cc. Found to contain 5.07 gms. of morphine per 100 cc.

Lab. No. 5814, Insp. No. 20307. "5 gr. Aspirin Tablets." Fred L. Johnson, Wichita. Found to contain 4.78 grs. of aspirin per tablet. Determined as acetyl salicylic acid.

Lab. No. 5825, Insp. No. 20353. "Aspirin Tablets." Palace Drug Company, Manhattan. Found to contain 4.99 grs. of aspirin per tablet. Determined as acetyl salicylic acid.

Lab. No. 5848, Insp. No. 31D. "Bodi-Tone." Bodi-Tone Company, Chicago. Declared to be a tone for the whole body, to contain iron phosphate, sarsaparilla, lithia, gentian, Chinese rhubarb, Oregon grape root, cascara and Peruvian bark. The manufacturers claim the preparation will "cure disease by common-sense method, to bring the body back to nature, to build up fundamentally, to do more than cure." Iron phosphate, lithia, berberine (the principal alkaloid Oregon grape root), rhubarb, Peruvian bark and emodin-bearing drugs were detected.

Lab. No. 5849, Insp. No. 30D. "Prescription." Sent to this laboratory by J. F. Stainbrook, Parker. Said to have been compounded by druggist. The original R called for quinine sulphate, Dover's powder, of each 20 grains; capsicum, 10 grains; to be put up in ten capsules. Examination showed presence of quinine sulphate, capsicum and over 60 per cent of antimony and potassium tartrate.

Lab. No. 5852, Insp. No. —. "Surgical Dressing." Said to have been manufactured by a Chicago physician and to be very expensive. Sample was found to be composed of zinc oxide, gelatin and glycerin.

Lab. No. 5855, Insp. No. —. "Coffee." Sent to this laboratory by Dr. Hannah, to be examined for presence of poison. Sample was composed of ground coffee and a small amount of decoction. Both samples were found to contain strychnine sulphate.

Lab. No. 5851, Insp. No. —. "Dog's Stomach." Sent to this laboratory to be examined for presence of poison. Strychnine was detected.

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Standards and regulations adopted by the State Board of Health, March 28, 1913. Published in the official state paper April 4, 1913.

Reg. 35—I—A-b-9.

MINCE MEAT.

Mince meat is a mixture of cooked, comminuted meat, with chopped suet, apples and other fruit, salt and spices, with sugar, syrup or molasses, with or without vinegar, fresh, concentrated, or fermented fruit juices or spirituous liquors. *The meat present is in sufficient quantity so that the total nitrogen of the mince meat is not less than 0.50 per cent.*

Condensed mince meat, when mixed with liquid as directed on the label, conforms in all respects to this standard except that not more than two (2) per cent of flour may be used as a binder. If glucose be used in any kind of mince meat, its presence must be declared on the label, using type not smaller than eight-point capitals.

As will be noted, the former standard for mince meat, as to cooked meat content, has been somewhat lowered, making this now about 5 per cent; and a standard for condensed mince meat has been added, based on the finished product ready for use.

Reg. 35—II—B-d-8.

CATCHUP.

Catchup (Ketchup, Catsup), is the clean, sound product made from properly prepared, clean, sound, fresh, ripe, whole tomatoes, with spices and with or without sugar or vinegar. *It contains not more than twenty-five (25) yeasts and spores per 1.60 cubic millimeters, and not more than twenty-five million (25,000,000) bacteria per cubic centimeter, and less than twenty-five (25) per cent of the microscopic fields show molds.* Mushroom catchup, Walnut catchup, and other catchups, are catchups made of material as above described and conform in name to the substance used in their preparation.

To the standard for catsup has been added the maximum content allowed for yeasts, bacteria and molds, thus giving a basis for determining the quality and conditions under which any lot of catsup has been made.

Reg. 3—Subdivision 15.

VINEGAR.

"Each package of vinegar, wholesale or retail, as delivered to the purchaser, shall bear a label stating the source, or kind of vinegar contained therein."

A Letter—Think About It!

The following letter from Dr. N. Hayes voices the sentiment of most sanitarians and epidemiologists that have to deal with epidemics of smallpox. It is becoming increasingly evident that it is wrong in principle to tax the community for quarantine measures in case of smallpox when every person may, at but little expense and pain, secure immunity against the disease. If, then, every person may with certainty secure freedom from smallpox, why should those who secure such immunity be taxed to protect those who refuse or neglect to do so? Several states have already abolished absolute quarantine for smallpox, simply requiring a placard to be posted as a warning sign, and all those who choose to have the disease rather than be vaccinated or who are "not afraid of the disease" may go into such placarded houses at will. Doctor Hayes' letter follows:

"The quarantine against smallpox should cease after a year's notice to that effect. This would affect the safety only of those opposed to smallpox vaccination. It is childishly sentimental, and does not rise to the dignity of official red-tapeism to continue to nurse these superstitious defects as we have in the past.

"Public duty for the common welfare begins where the power of the individual to easily and safely care for himself ends. The antivaccination sentiment is maintained by sectarian "medicine" and their willfully blind and prejudiced retainers. Society has arrived at a stage where it has no right to enforce vaccination nor to quarantine variola cases.

"The only rational and efficient method to deal with the antivaccinationists is to let them alone with good will and good feeling. It should be plainly set forth to the public from time to time that vaccination is not dangerous if properly done, and the sore arm that is so much dreaded is unnecessary, and is rightly chargeable to the vaccination.

"Your valued opinion on the proposition would be received as a compliment and a favor."

HOW IT HAPPENED.

A fly and a flea,
A mosquito and a louse,
All lived together
In a very dirty house.
The louse spread the ague,
The 'skeeter spread the chills,
And they all worked together
For undertaker's bills.

The fly spread typhoid,
And the flea spread typhus, too,
And the people in the house
Where a mighty dirty crew.
Along came a man
And he cleaned up the house,
He screened out the 'skeeter
And swatted the louse;
The fly and the flea
He smacked on the wall,
And now the people in the house
Are never sick at all.

—D. WHITE,

A Shortridge High School student, Indianapolis,
in *Indiana Bulletin*.

BULLETIN

OF THE

Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

Entered as second-class matter, March 5, 1906, at the post office at Topeka, Kan.,
under the act of Congress of July 16, 1894.

S. J. CRUMBINE, M. D., Secretary and Editor.

W. J. V. DEACON, Registrar.

No. 4.

APRIL, 1913.

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"Doc Williams." A New Novel With a Mission, page 63.

How about the high cost of dying?

The clean-up and paint-up campaign is on.

The animal that eats at your table—the fly.

Cleanliness and patriotism should go together.

Health spells efficiency in the alphabet of the commercial world.

The man who harbors a breeding place for flies is an enemy to society.

"The first duty of a statesman is to preserve the public health."
—Gladstone.

Read the law passed by our recent legislature, "An act relating to cleanliness," etc., in this issue of the BULLETIN.

"No country is really free, neither is it clean nor civilized, when 300,000 of its citizens are yearly forced into beds of sickness by triumphant hosts of filth-created typhoid bacilli."

"The first wealth is health. Sickness is poor-spirited and can not serve any one. It must husband its resources to live. But health or fullness answers its own ends, and has to spare, runs over, and inundates the neighborhoods and creeks of other men's necessities."—*Emerson.*

Contains a thickener; contains evaporated milk; milk fat, 9.8 per cent. Illegal.

Insp. No. 9882. Badly spoiled when received, and per cent or milk fat doubtful.

Insp. No. 9883. Milk fat, 18 per cent. Passed.

Insp. No. 9885. Main label, "Ice Cream, Vanilla." On tag "Frozen Cr. and Milk, 20 per cent Evap. Cremoline body." Manufacturer, Ice Cream Depot, J. A. Warren, manager, Coffeyville; retailer, W. C. Holmes & Son, Parsons. Milk fat, 7.9 per cent. If every one purchasing this product was informed that it was not "ice cream," no one would be deceived. If not, the product is illegal.

Insp. No. 9886. Milk fat, 17.7 per cent. Passed.

Insp. No. 9887. Main label, "5 gal. Vanilla." Following this, in small type about two inches from the first part appear these words: "Frozen Cream and Milk, 20 per cent Vap. Cremoline body." Manufacturer, Ice Cream Depot, Coffeyville; retailer, W. C. Holmes & Son, Parsons. Milk fat, 5 per cent. Same remarks as for 9885.

Insp. No. 9888. Milk fat, 18.4 per cent. Passed.

Insp. No. 9891. Too badly spoiled to test.

Insp. No. 9892. Too badly spoiled to test.

Insp. No. 9893. Milk fat, 16.4 per cent. Passed.

Insp. No. 9894. Badly spoiled when received, and per cent milk fat is doubtful.

Insp. No. 9895. Badly spoiled when received, and per cent milk fat is doubtful.

Insp. No. 9896. Label, "Ice Cream, Vanilla Flavor." Label on container, "Frozen Cr. & Milk, 20% Vap. Cremoline Body." Manufacturer, Ice Cream Depot, Coffeyville; retailer, C. J. Brooker, Cherryvale. Milk fat, 5.6 per cent. About the same remarks apply to this as to 9885.

Insp. No. 9897. Label, "Ice Cream, Vanilla Flavor." Label on container, "Frozen Cr. & Milk, 20% Vap. Cremoline Body." Manufacturer, Ice Cream Depot, Coffeyville; retailer, J. Williams, Cherryvale. Milk fat, 5 per cent. Same remarks as for 9885.

Insp. No. 9898. Milk fat, 15.8 per cent. Passed.

[Insp. No. 70128. Label, "Evap. Apricots, Lee Brank." Jobber, The H. D. Lee Mercantile Co., Salina; retailer, Tucker-Elliott Mercantile Co., Courtland.]These were bleached with sulphur dioxide to improve their appearance. They were not so labeled

and hence deceive the consumer, and contained sulphur dioxide largely in excess of that allowed by the federal government. Illegal.

FLAVORING EXTRACTS.

Lemon and orange extracts must each contain 5 per cent of the oil in question to be legal, and to do so must be made with strong alcohol. Such extract when violently shaken do not retain any foam, but an illegal extract may be detected before it is purchased by shaking it. The foam will persist for quite a time.

IMITATION EXTRACTS.

It should also be stated that some extracts are labeled, "Imitation Lemon Flavor," or other words, as the case may be. It would be practically impossible to hold a manufacturer to any definite composition, for who can say how well or how poorly an imitation product must imitate a standard one. A certain class of manufacturers know this and take advantage of it to sell whatever they like. Therefore the public should know that they have no protection in buying an imitation product of any kind. Standard, legal articles have to be of definite composition, and therein the public secures its protection.

Insp. No. 20128. Label, "Orange Flavoring." Manufacturer, American Soda and Baking Powder Company, Chicago, Kansas City, Wichita; retailer, R. C. Bouldin, Manchester. Oil, 1 per cent. Illegal.

Insp. No. 20130. Label, "Spts. Lemon." Manufacturer and retailer, J. N. Ketchersid, Hope. Oil, 1.1 per cent. Illegal.

Insp. No. 6705. Label, "Lemon Extract." Manufacturer, Goodrich Drug Company, Omaha, Neb.; retailer, Peck Bros., Rantoul. Oil, 4.95 per cent. Illegal.

Insp. No. 6707. Label, "Good Luck Imitation Lemon Flavor." Manufacturer, Oyster's Medicine Company, Kansas City, Mo.; retailer, W. F. Sutherland, Osawatomie. Contains no lemon oil.

Insp. No. 70126. Lemon Extract. Coal tar dye absent. Oil, 11.6 per cent. Passed.

Insp. No. 70127. Orange Extract. Coal tar dye absent. Oil, 12 per cent. Passed.

Insp. No. 9839. Label, "American Colored Flavor of Lemon." Manufacturer, American Tea Company, Coffeyville; retailer, American Tea Company. Lemon oil, a trace only. Illegal

MILK.

Insp. No. 9901. Milk fat, 4 per cent. Passed.

Insp. No. 9902. Milk fat, 3.8 per cent. Passed.

OLIVE OIL.

- Insp. No. 20090. Normal by all tests. Passed.
Insp. No. 20106. Normal by all tests. Passed.
Insp. No. 20107. Normal by all tests. Passed.
Insp. No. 20109. Normal by all tests. Passed.
Insp. No. 20127. Normal by all tests. Passed.
Insp. No. 20131. Normal by all tests. Passed.

PICKLES.

- Insp. No. 70057. Free from alum and benzoate of soda. Passed.
Insp. No. 70099. Label, "Haarmann's Superfine Sweet Pickles, Preserved with 0.10 of 1 per cent of Benzoate of Soda." Manufacturer, Haarmann Vinegar and Pickle Co., Omaha, Neb.; retailer, B. A. Throop, Washington. Contains alum and benzoate of soda. Illegal.
Insp. No. 70100. Label, "Bulk Pickles." Manufacturer, Haarmann Vinegar and Pickle Co., Omaha, Neb.; retailer, B. A. Throop, Washington. Contains alum and benzoate of soda. Illegal.

RICE.

- Insp. No. 70062. Not coated. Passed.
Insp. No. 70084. Label, "Orchard Brand Japan Style Rice." Jobber, Bittmann-Todd Grocer Co., Leavenworth; retailer, Schumacher & Ketter, Kelly. Heavily coated with mineral matter and not so labeled. Illegal.
Insp. No. 70093. Label, "2½ Lbs. Net Weight Rice. Premium Brand." Packer, Paxton & Gallagher Co., Omaha, Neb.; retailer, Wm. J. Schwartz, Hanover. Heavily coated with mineral matter and not so labeled. Illegal.
Insp. No. 70106. Label, "Corona Brand Fancy Table Rice." Distributor, Theo. Pohler Mercantile Co., Lawrence and Emporia; retailer, J. A. Green, Olsburg. Heavily coated with mineral matter and not so labeled. Illegal.

POWDERED SUGAR.

- Insp. No. 70060. Free from starch or other adulterant. Passed.
Insp. No. 70071. Free from starch or other adulterant. Passed.
Insp. No. 70092. Free from starch or other adulterant. Passed.

VINEGAR.

- Insp. No. 20174. Label, "Colored Apple Cider Vinegar." Manufacturer, Westmeier & Co., Colby; retailer, Madsen & Son, Atwood. Acid, 2.34 per cent. Illegal.
Insp. No. 70059. Label, "Vinegar." Manufacturer, Doniphan

Candy Co., St. Joseph, Mo.; retailer, Max Jacobs, Bendena, Kan. Acid, 2.44 per cent. Illegal.

Insp. No. 70097. Label, "Pure Apple Cider Vinegar." Manufacturer, Haarmann Vinegar and Pickle Co., Sioux City, Iowa; retailer, B. A. Throop, Washington. Adulterated by the addition of water. Illegal.

Insp. No. 70098. Label, "Vinegar." Manufacturer, Nebraska City Vinegar Manufacturing Co.; retailer, B. A. Throop, Washington. Adulterated by the addition of water. Illegal.

Insp. No. 70103. Label, "Haarmann's Export Pickling Vinegar." Manufacturer, Haarmann Vinegar and Pickle Co., Omaha, Neb.; retailer, H. C. Jones, Washington. This is a distilled vinegar, although its label would scarcely inform the average consumer of that fact. The inspector furnishes the information that the bottles containing this vinegar were invoiced by the manufacturer as quarts, but that the bottles themselves were stamped as containing twenty-five ounces only. Acid, 7.2 per cent; solids, 0.86 per cent. Passed as distilled vinegar.

Insp. No. 9796. Label, "Cider Vinegar." Jobber, Ranney Davis Mercantile Co., Arkansas City; retailer, J. F. Hostetter, Mulvane. Adulterated by the addition of water. Illegal.

Insp. No. 9806. Label, "Pure Cider Vinegar." Manufacturer, Earle Manufacturing Co., Kansas City, Mo.; retailer, L. G. Dowell, Bartlett. Acid, 3.88. Illegal.

Insp. No. 9810B. Label, "Vinegar." Sample of vinegar furnished State Hospital for Epileptics, Parsons, from June letting, by Otto Kuehne. Manufacturer and retailer, Otto Kuehne Preserving Co., Topeka. Adulterated by the addition of water. Illegal.

Insp. No. 9810C. Label, "Vinegar." Vinegar furnished School for the Blind by Otto Kuehne, June letting, 1912. Manufacturer and retailer, Otto Kuehne Preserving Co., Topeka. Adulterated by the addition of water. Illegal.

Insp. No. 9810D. Label, "Vinegar." Sample of vinegar taken from barrel received August 1, 1912, Boys' Industrial School, Topeka. Manufacturer and retailer, Otto Kuehne Preserving Co., Topeka. Adulterated by the addition of water. Illegal.

Insp. No. 9810E. Label, "Vinegar." Sample of vinegar from Girls' Industrial School, Beloit. Furnished by Otto Kuehne Preserving Co., Topeka, during month of July, 1912. Manufacturer

and retailer, Otto Kuehne Preserving Co., Topeka. Adulterated by the addition of water. Illegal.

Insp. No. 9911. Candy. Sample too small for analysis.

Alcohol in Ciders.

By Prof. H. LOUIS JACKSON, Analyst to the State Board of Health.

The frequency with which the food inspectors find so-called cider selling in Kansas, coupled with the facts that the products are almost never true cider and that they usually contain a high per cent of alcohol, has led to the belief that they were merely a convenient vehicle for the sale of intoxicating beverages in a prohibition state.

How these products compare with beer and wine is seen from the following facts: In seventy-six samples of American malt liquors the average alcoholic content was 5.61, and the highest 7.85. Of fifteen other samples the highest alcoholic content in beer was 7.07, and the average 4.45; the highest in ale was 5.37, and the average was 4.49.

Analyses of German, French, Austrian, Russian, Italian and Spanish wines given by König show the lowest alcoholic content to be 5.94, and the highest 15.77, while out of sixteen samples nine, or over half of the samples, were below 10.3 per cent of alcohol by volume.

Of the 31 products listed below of those containing alcohol there are:

1, 2 per cent alcohol.....one	6, 8 per cent alcohol...fifteen
2, 4 per cent alcohol.....two	8, 10 per cent alcohol...three
4, 6 per cent alcohol.....eight	10, 12 per cent alcohol...two

Therefore, over 74 per cent of them contain from 4 to 8 per cent of alcohol, or as much as strong beer and ale, while five run from 8 to 12 per cent, which is as high as many foreign wines.

It is believed that the officials and citizens of Kansas have not been fully aware of these facts. Therefore, the following list has been compiled from the records of the food laboratory of the University of Kansas. As these products are apparently on sale freely and may be consumed by boys with disastrous results, because of a lack of knowledge on their part of their intoxicating nature, it is thought that some communities may wish to stop their sale.

No.	Substance.	Alcohol, per cent.	Retailer.	Through—	Manufacturer.
2	Grape cider...	7.44	Drake Bros., Ness City.....	Dr. D.G. Edgerton.	
3	Peach cider...	1.45	Drake Bros., Ness City.....	Dr. D.G. Edgerton.	
3431B	Cider.....	5.99	Peg McClaffarty's		
3482B	Cider.....	5.92	Peg McClaffarty's		
5085B	Cider.....	8.40	Plainville.....	Doctor Miller.....	
6455	Cider.....	6.26	W. R. Dougherty, La Harpe.....		Clarksville Cider Co., St. Louis, Mo.
6632	Apricot cider; imitation.....	6.80	W. A. Van Horne, Larned.....		Frisco Cider Co., St. Louis, Mo.
7799	Apple base cider.....	8.20	Byron Wilcuts, Topeka.....		National Fruit Products Co., Memphis, Tenn.
9849	Pure cider...	5.73	B. F. Binder, Wa Keeney.....		Monarch Vinegar Wks. Kansas City, Mo.
9860	Apple base cider dark; grape flavor.	7.25	J. A. Freeman, Topeka.....		National Fruit Products Co., Memphis, Tenn.
9360A	Apple base cider.....	7.12	J. P. Warmeringer, Sharon Springs...	Dr. W. J. Scott....	
9882	Apple cider...	6.98	F. L. Shumway, Mayetta.....		National Fruit Products Co., Memphis, Tenn.
9883	Apple cider...	5.41	F. L. Shumway, Mayetta.....		National Fruit Products Co., Memphis, Tenn.
9883A	Blackberry cider.....	7.25	Backhus Bros., Winfield.....		Red Cross Vinegar Co., St. Louis, Mo.
9506	Apple cider...	7.72	James Trimble, jr., Agenda.....		Mueller-Keller Candy Co., St. Joseph, Mo.
9507	Cherry cider...	7.32	James Trimble, jr., Agenda.....		Mueller-Keller Candy Co., St. Joseph, Mo.
9598	Artificial crab apple cider..	7.57	Waters Merc. Co., Levant.....		Colby Bottling Works, Colby, Kan.
9641	Apple cider...	10.80	Charles McGill, Wetmore.....		Frisco Cider Co., St. Louis, Mo.
9649	Imitation peach cider.	6.11	Alfonso Villorrial, Horton.....		Frisco Cider Co., St. Louis, Mo.
9650	Crab apple cider.....	5.63	Alfonso Villorrial, Horton.....		Frisco Cider Co., St. Louis, Mo.
7614	Apple cider...	6.58	Drake Bros., Ness City.....		Doniphane & Co., St. Joseph, Mo.
7616	Cherry cider...	3.66	Drake Bros., Ness City.....		C. E. Potts Drug Co., Wichita.
7617	Grape cider...	8.86	Drake Bros., Ness City.....		
9795	Apple base cider.....	5.90	H. Kempling, Garden Plain.....		H. B. Allen Bottling Works, Wichita.
9965	Apple cider...	10.80	O. J. Wymer, Greensburg.....		Frisco Cider Co., St. Louis, Mo.
9981	Apple base cider.....	3.25	A. H. Lock, Norwich.....		Allen Bottling Co., Wichita.
90002	Blackberry cider.....	6.86	M. Paulin, Wichita,		Los Angeles Fruit Pro. Co., St. Louis.
90003	Grape cider...	6.10	M. Paulin, Wichita,		Los Angeles Fruit Pro. Co., St. Louis.
90004	Peach cider...	5.47	M. Paulin, Wichita,		Los Angeles Fruit Pro. Co., St. Louis.
90005	Apple cider...	5.86	M. Paulin, Wichita,		Los Angeles Fruit Pro. Co., St. Louis.
90019	Cherry cider...	6.78	Murray & McFarland, Wichita.....		Los Angeles Fruit Pro. Co., St. Louis.

High, 10.80; next, 10.30; low, 1.45; average, 6.61.

Prescription Fakes and Health and Beauty Talks.

A FAKE "ANSWERS TO CORRESPONDENTS" DEPARTMENT.

One of the "features" of the modern metropolitan daily is the "Woman's Page," in which is given, for the education or delectation of feminine readers, reading matter that ranges from the useful to the inane. Naturally enough, we find the important subject of care of the health learnedly (?) discussed by the "Madames" or "Mademoiselles" who have charge of these departments. To the "patent medicine" advertiser who would deceive the reader by publishing his advertisement in "reading matter" style, space on these "Woman's Pages" is a valuable asset. A form of deceptive advertisement that of late has become very popular with nostrum exploiters has previously been referred to in these columns as "prescription fakes." The advertisements are usually set as reading matter, and contain information regarding the treatment of some physical ailment by means of the drugs contained in an innocent looking formula; usually all the drugs but one are official, the exception being a "patent medicine" with a name not unlike the pharmacopœial preparations. A modification of the "prescription fake" type of advertisement forms the subject of this article."

Every week or so "Mrs. Mae Martyn's" fake department will appear in the paper, the initials of the "correspondents" and the wording of the "answers" varying, but the usual changes being rung on spurmax, crystos, almozoin, canthrox, quinola, parnotis, kardene and luxor.

Should the innocent reader go to the drug store and ask, say, for four ounces of spurmax, she is given the inevitable "original package," consisting of a tin box bearing a label with the name of the preparation, the method of using it and the various conditions for which the nostrum is recommended. There is also the statement, "Made by H. S. Peterson & Co., 95-97 Kinzie St., Chicago." The company putting out these medicinal agents is not a firm of pharmaceutical chemists, but, we understand, manufactures flavoring extracts and does business largely by means of women agents throughout the country.

Four of these deceptively advertised nostrums were analyzed in the Association's laboratory. The laboratory report follows:

ALMOZOIN.

Almozoïn, as found on the market, is a pale pinkish-white powder, having a faint odor like benzaldehyd. Qualitative examination of almozoïn demonstrated the presence of magnesium, sodium, tragacanth, a carbonate and a borate. Free boric acid, ammonium salts and sulphates were absent. Magnesium and the borate radicle were determined and the tragacanth was approximately estimated. From the results of the examination it would appear that the composition of almozoïn is essentially as follows:

Tragacanth (gum tragacanth).....	40 per cent
Sodium borax (borax)	40 per cent
Magnesium carbonate.....	20 per cent

(Retail price of almozoïn, one-half dollar; estimated cost of ingredients, three cents.)

CRYSTOS.

The specimen package of crystos which was purchased contained about one ounce and was a coarse, white, odorless powder. Qualitative tests demonstrated the presence of chlorid, free boric acid, borate, sodium and traces of sulphate. Alkaloids, ammonium salts, carbonates, heavy metals and potassium were absent. Determinations of chlorid and of free and of combined boric acid were made, from which it would appear that the composition of crystos is about as follows:

Dried sodium borate (dried borax).....	20 per cent
Sodium chlorid (common salt)	20 per cent
Boracic acid.....	60 per cent

(Retail price of crystos, one-half dollar; estimated cost of ingredients, one cent.)

PARNOTIS.

Parnotis is a pale, cream-colored, fine powder, having an odor resembling cologne, which dissolves in water and forms a turbid solution, which becomes clear by filtration. Qualitative examination of the preparation demonstrated the presence of bicarbonate, sulphate, sodium and traces of chlorid and of iron. Quantitative determinations of the sulphate and of the bicarbonate were made, from the results of which it would appear that parnotis consists essentially of:

Impure anhydrous sodium sulphate.....	25 per cent
Sodium bicarbonate.....	75 per cent

(Retail price of parnotis, one-half dollar; estimated cost of ingredients, less than two cents.)

SPURMAX.

Spurmax is a pink, crystalline powder, highly perfumed. Qualitative tests demonstrated the presence of magnesium and of a sulphate. The absence of more than traces of chlorid, carbonate, organic compounds and heavy metals was shown by the usual tests. Quantitative determinations were made for magnesium, for sulphate and for water. Microscopic examination indicated that the coloring matter was very unevenly distributed throughout the preparation, some crystals being colorless, while others were very highly colored. Essentially, spurmax consists of:

Crystallized magnesium sulphate (Epsom salts).....	100 per cent.
Perfume.....	Trace.
Coloring matter.....	Trace.

(Retail price of spurmax, one-half dollar; estimated cost of ingredients, one cent.)

NEW FORM OF AN OLD TRICK.

Spurmax, then, when subjected to the critical light of analysis and shorn of the hypothetical virtues with which "Mrs. Mae Martyn" invests it, proves to be Epsom salts colored pink and rendered highly odoriferous; the "flesh reducer that . . . should reduce your weight ten pounds in a few weeks" contains, apparently, nothing more marvelous than sulphate and carbonate of soda—and so it goes. The old, old trick of the charlatan, the quack and the nostrum exploiter is again in evidence. Give some well-known drug a fancy name, disguise it physically if possible, advertise it as possessing marvelous virtues and sell it at a price out of all proportion to its value.—*Oregon Bulletin*.

"HEALTH AND BEAUTY TALKS."

For several months past many newspapers have been carrying on the "woman's page" what, to the uninitiated, appears to be a department devoted to answering queries regarding health. The "department" is entitled "Health and Beauty Talks," or "Health and Beauty Helps," or "Aids," or "Secrets"—the last word of the title varying with the copy. Under the title is the legend, "By Mrs. Mae Martyn." The subject matter consists of information (?) on questions of health, given in the "answers to correspondents" form; the first and last "answer" usually makes reference to none but simple home remedies or pharmacopœial preparations. For instance:

"Q. 1. A good foot wash is made of a pint of water, to which is added a tablespoonful of salt and a pinch of alum and a few drops of arnica."

Every other "answer," however, contains a "joker" in the form of nostrum which is referred to in such a way as to lead the unsuspecting reader to imagine that it is but an ordinary official drug. Thus, in the advertisement before us, there are nine replies. Here is a sample:

"Ethel J.: (1) It made me happy to read your letter. I am glad you think so well of my recipes that you cut them out and pass them along to your friends. None should have difficulty in getting from her druggist any ingredient I name, for I never advise use of anything that is not sold in first-class drug stores everywhere. (2) The only objection I know to the use of liquid complexion beautifiers is their high cost when purchased in a ready manufactured state. You can make at home a fine 'liquid powder' that softens and whitens the skin by putting two teaspoonfuls of glycerin and four ounces of spurmax in one-half pint of boiling water; let stand until cold. Apply with the palm of the hand and rub until dry. I prefer this spurmax wash to any face powder I can buy."

The "joker" in this "answer," of course, is spurmax. In the other "replies," all worded in the same deceptive way, the reader is urged to get—

Crystos—"For tired and inflamed eyes."

Almozoin—"For blackheads, . . . freckles and tan."

Canthrox—"For shampooing purposes."

Quinola—"To remove dandruff, stop falling hair, relieve itching . . . and promote the growth of hair."

Parnotis—"A flesh reducer that . . . should reduce your weight ten pounds in a few weeks."

Kardens—"A splendid blood tonic and liver invigorator . . . for pimples, yellow blotches, sallow complexion, scrofula and all eruptions of the skin."

Luzor—"A very dear friend of mine cured a most obstinate case of eczema with this remedy."

BULLETIN

OF THE

Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

Entered as second-class matter, March 5, 1906, at the post office at Topeka, Kan.,
under the act of Congress of July 16, 1894.

S. J. CRUMBINE, M. D., Secretary and Editor.

W. J. V. DEACON, Registrar.

No. 3.

MARCH, 1913.

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“Finger-nail biters—bacteria eaters.”

“Fire waste can be replaced, but life waste is irrevocably gone.”

“Joy, temperance and repose, slam the door on the doctor's nose.”—*Longfellow.*

“The old oaken bucket—fine sentiment, but abominable sanitation.”

“Breathe through your nose and keep your mouth closed. The latter precaution may likewise keep you out of trouble.”—*Buffalo Bulletin.*

“When a congregation sleeps peacefully through a sermon, the air of the church should be examined before sending out an S. O. S. call for a new pilot.”—*Cincinnati Report.*

The money spent in Kansas every year for funerals and for treating typhoid fever would be enough to banish the disease from the state if used in well-known measures of prevention.

“Men who are occupied in the restoration of health to other men, by the joint exertion of skill and humanity, are above all the great of the earth. They even partake of divinity, since to preserve and renew is almost as great as to create.”—*Voltaire.*

“Infant mortality is the most sensitive index we possess of social welfare.”—*Newsholme.*

VITAL STATISTICS

Reported to the State Board of Health for February, 1913.

CONTAGIOUS AND INFECTIOUS DISEASES.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths..	Cases...	Deaths..	Cases...	Deaths..	Cases...	Deaths..	Cases...	Deaths..
The State... totals..... February, 1912.	35 40	5 2	59 106	4 7	194 248	3 9	84 20	1 0	1115 434	4 2
*Allen	0	0	0	0	1	0	0	0	1	0
Anderson	0	0	0	0	0	0	0	0	0	0
Atchison	0	0	0	0	0	0	0	0	0	0
Barber	0	0	0	0	0	0	0	0	0	0
Barton	0	0	0	0	7	1	0	0	2	0
Bourbon	0	0	0	0	7	1	0	0	2	0
Brown	0	0	0	0	0	0	0	0	5	0
Butler	0	0	0	0	1	0	0	0	12	0
Chase	0	0	0	0	0	0	0	0	40	0
Chautauqua	0	0	2	0	1	0	0	0	0	0
Cherokee	0	0	7	0	5	0	12	0	0	0
Cheyenne	0	0	0	0	0	0	0	0	0	0
*Clark	0	0	0	0	0	0	0	0	5	0
Clay	0	0	0	0	0	0	0	0	2	0
Cloud	0	0	0	0	0	0	0	0	2	0
Coffey	0	0	0	0	0	0	0	0	2	0
Comanche	1	0	0	0	0	0	0	0	0	0
Cowley	0	0	0	0	1	0	0	0	1	0
Crawford	0	0	2	0	8	0	2	0	4	0
Decatur	0	0	0	0	0	0	0	0	0	0
*Dickinson	0	0	0	0	0	0	0	0	4	0
Doniphan	0	0	1	0	1	0	0	0	100	2
Douglas	0	0	0	0	11	0	0	0	0	0
Edwards	0	0	0	0	0	0	1	0	0	0
Ellis	4	0	1	0	0	0	0	0	0	0
Ellsworth	0	0	0	0	2	0	0	0	7	0
Flinney	0	0	0	0	0	0	0	0	1	0
Ford	0	0	1	1	0	0	0	0	31	1
Franklin	0	0	3	0	2	0	0	0	0	0
Geary	0	0	1	0	0	0	0	0	4	0
Gove	0	0	0	0	0	0	0	0	0	0
Graham	0	0	0	0	1	0	0	0	0	0
Grant	0	0	0	0	0	0	0	0	0	0
Gray	1	0	0	0	0	0	0	0	1	0
Greeley	0	0	0	0	0	0	0	0	0	0
Greenwood	0	0	1	0	0	0	0	0	1	0
Hamilton	0	0	0	0	0	0	0	0	0	0
Harper	0	0	0	0	0	0	0	0	1	0
Harvey	0	0	0	0	0	0	0	0	0	0
Haskell	0	0	0	0	0	0	0	0	0	0
Hodgeman	0	0	0	0	0	0	0	0	72	4
Jackson	0	0	1	0	0	0	0	0	4	0
Jefferson	0	0	0	0	0	0	0	0	10	0
Jewell	0	0	0	0	2	0	0	0	8	0
Johnson	2	0	2	0	3	0	7	0	6	0
Kearny	0	0	0	0	0	0	0	0	0	0
Kingman	0	0	0	0	0	0	0	0	15	0
Kiowa	0	0	0	0	0	0	0	0	0	0
*Labette	0	0	0	0	0	0	0	0	0	0
Lane	0	0	0	0	0	0	0	0	0	0
Leavenworth	0	0	0	0	6	0	0	0	7	0
Lincoln	0	0	0	0	0	0	0	0	0	0
Linn	0	0	0	0	0	0	0	0	0	0
Logan	0	0	0	0	0	0	0	0	0	0
Lyon	1	0	1	0	7	0	1	0	15	0
Marion	0	0	2	1	1	0	0	0	8	0
Marshall	0	0	0	0	4	0	1	0	0	0
McPherson	0	0	0	0	0	0	1	0	0	0
Meade	0	0	0	0	0	0	0	0	0	0

CONTAGIOUS AND INFECTIOUS DISEASES—Continued.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.
Miami.....	0	0	0	0	0	0	0	0	0	0
Mitchell.....	1	0	1	0	0	0	0	0	0	0
Montgomery.....	1	0	0	0	3	1	6	0	1	0
* Morris.....	0	0	0	0	0	0	0	0	0	0
Morton.....	0	0	0	0	0	0	0	0	0	0
Nemaha.....	0	0	1	0	4	0	0	0	0	0
Neosho.....	0	0	0	0	0	0	0	0	0	0
Ness.....	0	0	0	0	0	0	0	0	0	0
Norton.....	0	0	0	0	2	0	0	0	1	0
Osage.....	0	0	0	0	0	0	0	0	15	0
Osborne.....	0	0	0	0	4	0	0	0	2	0
Ottawa.....	0	0	0	0	0	0	0	0	2	0
Pawnee.....	0	0	0	0	5	0	0	0	1	0
Phillips.....	0	0	0	0	0	0	0	1	0	0
Pottawatomie.....	0	0	0	0	2	0	4	1	0	0
* Pratt.....	0	0	0	0	11	0	17	0	5	1
Rawlins.....	0	0	0	0	1	0	1	0	0	0
Reno.....	0	0	0	0	1	0	0	0	1	0
Republic.....	0	0	0	0	2	0	0	0	0	0
Rice.....	0	0	0	0	0	0	0	0	0	0
Riley.....	0	0	2	0	0	0	7	0	152	0
Rooks.....	0	0	0	0	1	0	0	0	0	0
Rush.....	0	0	0	0	10	0	0	0	20	0
Russell.....	0	0	0	0	5	0	2	0	0	0
Saline.....	0	0	0	0	1	0	0	0	0	0
Scott.....	0	0	0	0	0	0	0	0	1	0
Sedgwick.....	0	0	0	0	0	0	0	0	0	0
Seward.....	0	0	0	0	1	0	0	0	0	0
Shawnee.....	0	0	0	0	8	0	0	0	36	0
Sheridan.....	0	0	0	0	0	0	6	0	0	0
Sherman.....	0	0	0	0	0	0	0	0	0	0
Smith.....	0	0	6	1	4	0	0	0	0	0
Stafford.....	0	0	0	0	0	0	0	0	0	0
Stanton.....	0	0	0	0	0	0	0	0	0	0
Stevens.....	0	0	0	0	0	0	0	0	0	0
Sumner.....	2	0	0	0	3	0	0	0	0	0
Thomas.....	1	0	0	0	0	0	1	0	0	0
Trego.....	0	0	0	0	0	0	0	0	0	0
Wabaunsee.....	0	0	0	0	0	0	0	0	10	0
Wallace.....	0	0	0	0	0	0	4	0	1	0
Washington.....	0	0	1	0	0	0	0	0	2	0
Wichita.....	0	0	0	0	0	0	0	0	0	0
Wilson.....	0	0	0	0	3	0	2	0	0	0
Woodson.....	0	0	1	1	0	0	0	0	2	0
Wyandotte.....	0	0	1	0	0	0	2	0	0	0
Cities:										
Atchison.....	7	2	1	0	0	0	0	0	0	0
Coffeyville.....	0	0	0	0	2	0	0	0	0	0
Fort Scott.....	1	1	0	0	0	0	0	0	0	0
Hutchinson.....	9	1	0	0	0	0	0	0	0	0
Independence.....	0	0	0	0	0	0	0	0	0	0
Kansas City.....	2	0	11	0	5	0	4	0	259	0
Lawrence.....	0	0	0	0	0	0	0	0	0	0
Leavenworth.....	0	0	2	0	13	0	0	0	3	0
Parsons.....	1	0	2	0	16	0	3	0	0	0
Pittsburg.....	0	0	1	0	3	0	0	0	2	0
Topeka.....	0	0	3	0	7	0	0	0	224	0
Wichita.....	1	1	1	0	6	0	0	0	3	0

* No report from county health officer.

DRUG ANALYSIS, XLIV.

L. E. SAYRE, Director; L. D. HAVENHILL, Chief; G. N. WATSON, Analyst;
C. M. STERLING, Microscopist.

The report of the analytical department of the Drug Laboratory presents herewith an analysis of a group of official preparations and proprietaries, as have been received from various inspectors.

The attention of dealers in such articles as witch hazel should be called to this article, and to the fact that it should contain about 14.2 per cent of absolute alcohol. While there are some articles on the market which practically reach this standard, it will be seen that there are others that fall far below the percentage named. Inasmuch as this article is used as a stimulating local application, partly dependent on not only the alcoholic content, but certain organic principles which are prevented from deterioration by the presence of alcohol, it is quite essential that the percentage of this spirit should be maintained at about the maximum named.

Bay rum is practically a toilet preparation, but even toilet preparations have a standard which is important from a medical point of view. This importance is not appreciated by the unskilled in medicine, hence the danger of having such goods sold promiscuously where the chances of supervision are slight. The same remarks imply to the preparation known as hydrogen peroxide. While this, as ordinarily prepared, is not a poisonous article, and as frequently used not a medicinal substance, nevertheless it is a medicine, and may become poisonous through deterioration, etc. Such agents as hydrogen peroxide should be placed, for the proper protection of the public, in the hands of a special class, whose legal obligation is to keep standard materials and where inspection and guardianship is readily secured. It will be noticed from the list of hydrogen peroxides examined that some of these preparations have deteriorated slightly. There is a prevailing opinion among manufacturers that hydrogen peroxide should be dated, and that the time limit for it as a marketable article should be six months. A symposium upon this whole subject, discussed by eminent pharmaceutical chemists, can be found in the *Pharmaceutical Era*, January, 1913, page 12.

ELIXIR OF IRON, QUININE AND STRYCHNINE PHOSPHATE.

It is presumed that pharmacists are aware that in the price lists there are advertised this tonic elixir of different strengths of quinine. It is needless to say that the only preparation which would

be passed as legal is that responding to the requirements of the Pharmacopœia.

The present report is full of interest because it contains such a variety of material, and the analyses of these show the practical value of the food and drugs law. It should be stated, however, that drug inspectors collect for analysis mainly suspected material. It is the adoption of this policy that makes the percentage of adulteration and misbranding appear as high as it does. The facts are, however, that the quality and purity of drugs and medicinal preparations are constantly improving and reaching close to the standard.

L. E. S.

TINCTURE OF FERRIC CHLORIDE.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Per cent metallic iron.	Nitric acid.
5714	80257	A. W. Tracey.....	North Topeka..	0.966	4.73	Absent.
5720	80263	Home Drug Store.....	Topeka.....	1.000	4.42	Absent.

*Tincture of ferric chloride should have specific gravity of about 1.006; should contain not less than 13.23 per cent of the anhydrous salts corresponding to 4.58 per cent of metallic iron. Nitric acid should not be present.

WITCH HAZEL.*

Lab. No.	Insp. No.	NAME.	City.	Alcohol.	Methyl alcohol.	Remarks.
5802	80284	Davis Drug Co.....	Wichita.....	13.5	Absent.	S. W. D. Co., jobbers.
5806	80296	Johnson Drug Co.....	St. edgwick.....	13.8	Absent.	Goodrich Drug Co., manf., Omaha.
5815	20808	S. H. Kress & Co.....	Wichita.....	13.0	Absent.	Parke & Co., N. Y., alc hol declared 15 per cent.
5818	20817	Woolworth & Co.....	Topeka.....	14.4	Absent.	Alcohol declared 15 per cent.
5819	20817½	Woolworth & Co.....	Topeka.....	7.0	Absent.	Ed. Gerarda, Chicago, manf. Alcohol declared 7 per cent.
5821	20319	C. A. Kessler.....	Topeka.....	8.6	Absent.	Queen Perfume Co., Chicago, manf. Alcohol declared 7 per cent.
5826	20854	Carl Engel Mer. Co...	Manhattan....	None.	None....	Preparation contains about 0.15 of 1 per cent acetic acid. Has slight witch hazel odor. Jobber, C. D. Smith, St. Joseph.
5834	20864	A. B. Carter.....	Valley Falls..	5.6	Absent.	
5835	20865	J. E. Tutt.....	Valley Falls..	13.5	Absent.	Jobber, Faxon & Gallagher. 15 per cent alcohol declared.
5843	20872	Rob. McMillan.....	Meridan.....	13.7	Absent.	Manf. Chas. M. Rich, N. Y. 15 per cent alcohol declared.
5843	20873	Dr. Alonzo R. Adams,	Easton.....	13.2	Absent.	Wherit-Mize Drug Co., Atchison.

*Extract of witch hazel should contain about 14.2 per cent absolute alcohol.

BAY RUM.*

Lab. No.	Insp. No.	NAME.	City.	Alcohol.	Methyl alcohol.	Remarks.
5773	20275	J. D. Kuhl.....	Clearwater...	55.4	Absent.	Low in oil. Made from conc. bay rum.
5817	20316	Woolworth & Co.....	Topeka.....	30.2	Absent.	Low in oil. Declared 83.1 per cent alcohol. Manf. by Ed. Gerarde, Chicago.

* Bay rum should contain 56 to 58 per cent alcohol; should contain no sediment, and should compare with the standard preparation in the amount of oil.

HYDROGEN PEROXIDE.*

Lab. No.	Insp. No.	NAME.	City.	Solids.	Per cent. H ₂ O ₂ .	Cc. N/10H ₂ SO ₄ required.	Barium.	Fluorids.	Arsenic.
5596	20167	Eaton Drug Co.....	Colby.....	0.022	2.60	2.9	Abs.	Abs.	Abs.
5680	20222	F. D. Eggleston.....	Kingman.....	0.022	2.90	0.8	Abs.	Abs.	Abs.
5683	20224	O. E. Gillespie.....	Garden Plain...	0.083	2.90	4.3	Abs.	Abs.	Abs.
5705	80250	Petit Drug Co.....	Galena.....	0.018	2.86	1.9	Abs.	Abs.	Abs.
5706	80251	L. G. Harris.....	Galena.....	0.024	0.11	3.6	Abs.	Abs.	Abs.
5710	80255	S. Campbell.....	Galena.....	0.024	2.83	4.7	Abs.	Abs.	Pres.
5723	80276	Percy Walker.....	Topeka.....	0.030	2.95	2.5	Abs.	Abs.	Abs.
5746	80279	Mrs. R. M. Bundy.....	Stark.....	0.000	3.10	2.6	Abs.	Abs.	Abs.
5746	80279	Mrs. R. M. Bundy.....	Stark.....	0.031	3.07	2.8	Abs.	Abs.	Abs.
5757	20251	Daugherty Drug Co.....	Syracuse.....	0.023	3.00	1.4	Abs.	Abs.	Abs.
5800	80282	A. E. Dunlap.....	Wichita.....	0.025	2.77	1.5	Abs.	Abs.	Abs.
5801	80283	Brogan & Wheeler.....	Wichita.....	0.017	3.92	3.0	Abs.	Abs.	Abs.
5803	80285	R. I. Drug Co.....	Wichita.....	0.030	3.00	2.3	Abs.	Abs.	Abs.
5807	80289	A. McVickar.....	Wichita.....	0.039	2.86	1.8	Abs.	Abs.	Abs.

* Hydrogen peroxide should contain 3 per cent H₂O₂; the total solids from 20 cc. of the preparation should not exceed 0.03; after treating 25 cc. of the solution with 10/N potassium hydroxide, V. S. as directed by Pharmacopoeia, not less than 2.5 cc. of N/10 sulphuric should be required to neutralize. Barium, arsenic, fluorides and heavy metals should not be present.

† Required 10 cc. N/10 KOH instead of 5 cc. as given in U. S. P. assay. Excessively acid.

ESSENCE OF PEPPERMINT.*

Lab. No.	Insp. No.	NAME.	City.	Cc. of oil in 100 cc.	Added water.	Remarks.
5767	20261	Johnson & Dodge.....	Great Bend.....	Trace.	None.	Adulterated.
5777	20279	Rice Bros.....	Ashland.....	5.6	None.	Adulterated.
5831	20361	Naylor Pharmacy.....	Holton.....	10.9	None.	Passed.
5832	20362	Bacon Drug Co.....	Holton.....	8.0	None.	Below standard.

* Essence of peppermint should contain 10 cc. of oil in 100 cc. of the essence, and no added water.

AROMATIC SPIRIT OF AMMONIA.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Oil.	Per cent ammonia.
5696	20234	Harper Drug Co.....	Harper.....	0.9087	Low.	2.0
5708	80243	W. G. Allen.....	Wier City.....	.8961	Low.	1.1
5725	80269	Lake Pharmacy.....	Topeka.....	.8962	Low.	1.6
5770	20264	A. & A. Drug Co.....	.....	.8920	Low.	1.4

* Aromatic spirit of ammonia should have specific gravity of about 0.900; should contain about 2 per cent NH₃.

LINSEED OIL.*

Lab. No.	Insp. No.	NAME.	City.	Sapon. No.	Specific gr'vity.	Flash test.	Remarks.
5810	20294	Davidson & Case..	Valley Center...	186.70	0.9339	295°	Responds to Liebermann-Storch reaction for rosin and rosin oil. Am. Linseed Co. (Boiled.) Passed.
5813	20305	Dr. E. S. Haworth,	Iola.....	178.30	.928	270°	Responds to Liebermann-Storch reaction for rosin and rosin oil. Dries within 48 hours. (Boiled.)
5822	20350	Ponayo Drug Store	Clay Center....	192.30	.980	285°	Dries within 72 hrs. Passed.
5828	20357	Ernest Fuger....	Wathens.....	192.10	.929	295°	Passed.
5836	20366	Delaware Lumber Company.....	Valley Falls....	191.40	.984	290°	Does not respond to Liebermann-Storch reaction for rosin and rosin oil. Dries within 48 hours. (Boiled.) Passed.
5837	20367	Legler & Son Lumber Co.....	Valley Falls....	188.04	.980	270°	Responds to Liebermann-Storch reaction for rosin and rosin oil. Dries within 48 hours. (Boiled.)
5838	20368	Dr. M. S. McCreight	Oskaloosa.....	71.07	.859	55°	Responds to Liebermann-Storch reaction for rosin and rosin oil. Sample contains a large amount of rosin oil. It does not dry properly, forms sticky coat and can be rubbed off. Labeled "Spurmo Linseed Oil."
5853	.....	Miles Bros.....	Osage City.....	107.29	.875	.....	Responds to Liebermann-Storch reaction for rosin and rosin oil. Dries in 20 hours. Shipped by Great Eastern Oil and Paint Co., Cleveland, Ohio. Below standard.
5854	27D	August Pache....	.....	190.40	.....	.....	Dries in 72 hours. Shipped by McDonald Paint and Glass Co., Kansas City, Mo. Passed.
5854	27D	August Pache....	.....	95.33	.....	.....	Responds to Liebermann-Storch reaction for rosin and rosin oil. Adulterated with mineral oil. Shipped by Hulbert & Co., Omaha. Misbranded.

*Linseed oil should dry perfectly on glass plate; not more than 1 per cent unsaponifiable matter should be present, and should otherwise conform to standard published in Bulletin No. 5, 1912.

SPIRIT OF CAMPHOR.*

Lab. No.	Insp. No.	NAME.	City.	Camphor in 100 cc.	Added water.	Remarks.
5722	80285	D. R. Osborne.....	Topeka.....	9.80	None.	Passed.
5756	80250	R. E. Minn.....	Lakin.....	8.90	None.	Below standard.
5769	20263	S. C. Arnold.....	Hutchinson.....	9.40	None.	Below standard.
5774	20276	Dr. R. H. Shippy.....	Peck.....	11.20	None.	Above standard.
5775	80277	Owl Drug Store.....	Englewood.....	8.60	None.	Below standard.
5776	20278	Dave Phillips.....	Coldwater.....	8.60	None.	Below standard.
5805	80287	J. L. Buchanan.....	Wichita.....	10.20	None.	Passed.
5811	20303	E. L. Feagan.....	Norwich.....	8.85	None.	Below standard.
5823	20351	Jennings Drug Co.....	Clay Center.....	10.70	None.	Above standard.
5844	80374	City Drug Store.....	Havensville.....	10.50	None.	Above standard.
5845	20375	Reed's Pharmacy.....	Soldier.....	8.60	None.	Below standard.

* Spirit of camphor should contain 10 gms. of camphor in 100 cc. of the preparation, and no added water.

ESSENCE OF JAMAICA GINGER.*

Lab. No.	Insp. No.	NAME.	City.	Per cent alcohol.	Capsicum.	Remarks.
5730	80273	Rex Pharmacy.....	Topeka.....	91.80	None.	Alcohol declared, 95 per cent.
5731	80274	W. H. Wilson.....	Topeka.....	86.50	None.	
5772	20266	Geo. F. Trump.....	Ellinwood.....	90.00	None.	
5804	80286	Elk Drug Co.....	Wichita.....	88.00	None.	
5824	20352	Priest Drug Co.....	Clay Center.....	71.25	None.	Alcohol declared, 75 per cent.
5829	20358	Wherritt-Mize Drug Co.	Atchison.....	68.00	None.	Alcohol declared, 68 per cent.
5839	20369	C. H. Cain.....	Tonganoxie.....	90.50	None.	
5840	20370	J. W. Radcliff.....	Tonganoxie.....	91.60	None.	

* Essence of Jamaica ginger should contain about 91 per cent of alcohol, no capsicum or added water.

SOAP LINIMENT.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Gms. soap in 100 cc.	Gms. camphor in 100 cc.	Remarks.
	20253	Bushton Drug Co.	Bushton....	0.8755	5.30	4.37	Passed.
	20282	A. & A. Drug Co.		.8772	5.27	4.69	Passed.

* Soap liniment should contain 4.5 gms. of camphor in 100 cc. and 5.5 to 6 gms. of soap in 100 cc. The specific gravity should be 0.8748 to 0.8852.

ELIXIR OF IRON, QUININE AND STRYCHNINE PHOSPHATE.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Total alkaloids in 100 cc.	Per cent alcohol.
5411	20019	C. W. Engbord.....	McPherson.....	1.074	0.599	20.7
5699	20237	Dalton Sparr.....	Bluff City.....	1.127	.699	12.8

* Elixir of iron, quinine and strychnine phosphate should have specific gravity of 1.0676; total alkaloids, 0.896 in 100 cc.

AROMATIC SULPHURIC ACID.

Lab. No.	Insp. No.	NAME.	City.	Per cent H ₂ SO ₄ .	Per cent alcohol.
5713	80256	Campbell Drug Co.....	North Topeka....	20.9	75.7
5716	80259	Shawnee Drug Store.....	Topeka.....	20.7	72.7
5724	80267	Postoffice Drug Store.....	Topeka.....	19.5	72.8

Lab. No. 5507, Insp. No. 20120. "Ointment of Ammoniated Mercury." Lee Gramley, Clay Center. Sample contains 7.54 per cent ammoniated mercury. Below standard.

Lab. No. 5229, Insp. No. 80272. "Solution of Ferric Chloride." Hargis Pharmacy, Topeka. Sample showed by assay 9.85 per cent metallic iron. Nitrates, ferric iron and oxychloride absent. Passed.

Lab. No. 5779, Insp. No. 20281. "Tincture of Iodine." Dr. C. E. Phillips, Zenda. Sample was found to contain 7.3 gms. of iodine and 5.52 gms. of potassium iodide in 100 cc. Passed.

Lab. No. 5827, Insp. No. 20355. "Sweet Spirit of Nitre." Jacob Miller, Wathena. Sample was found to contain 0.85 per cent of ethyl nitrite. Sample was kept in loosely stoppered bottle.

Lab. No. 5806, Insp. No. 80288. "Essence of Pepsin." Dr. Jordan Drug Store, Wichita. U. S. P. assay showed a residue 1.5 cc. of undigested albumin. Passed.

Lab. No. 5833, Insp. No. 20363. "Elixir of Lactated Pepsin." Griffin & Son, Nortonville. U. S. P. assay showed a residue of 11.7 cc. of undigested albumin. Compound digestive elixir was taken as a standard.

Lab. No. 5841, Insp. No. 20371. "Elixir of Lactated Pepsin." Dr. Claude H. Case, Bashor. U. S. P. assay showed 13.8 cc. undigested albumin. Compound digestive elixir was taken as a standard.

Lab. No. 5718, Insp. No. 80261. "Elixir of Poppy Compound." Marshall Bros., Topeka. Sample was found to contain 13 per cent of alcohol. Morphine was present. Negative test for iodides, bromides and meconic acid. Preparation was colored with aniline dyes. Neither morphine nor alcohol declared on label.

Lab. No. 5726, Insp. No. 80269. "Tr. of Poppy Compound." Sample contained 12.7 per cent of alcohol. Morphine, glycerin and salicylic acid were present.

Lab. No. 5109, Insp. No. 2966. "Female Friend." Manufactured by New Era Drug Association, Detroit, Mich. Found to contain 21.78 per cent alcohol. Preparation gives slight test for alkaloids. Preparation declared to contain nux vomica and aloes. If present, they must be in very minute quantities.

Lab. No. 5445, Insp. No. 20067. "Schoenfelt's Pain Relief." J. I. Reeder, Kansas City. Preparation consists chiefly of kerosene. Contains some oil of sassafras, volatile oil of mustard, and capsicum. The package also contained a package of Schoenfelt tea, which consisted of senna, triticum, sassafras, coriander, cala-

mus, urva ursi, glycyrrhiza. hemp seed, etc. Preparation manufactured by S. Pfeiffer, St. Louis.

Lab. No. 5466, Insp. No. 20076. "White Pine." Harry Lilly, Kansas City, retailer; Ethical Drug Company, Kansas City, Mo., wholesaler. Preparation consisted of a reddish, rather thick liquid, with a sweet, tarry taste. Gives a reaction for chloroform. Contains alcohol, morphine and chloroform. These substances were not declared on the label. Misbranded.

Lab. No. 5478, Insp. No. 20098. "Spearline Magio Cough Syrup." Retailer, B. C. Beals, Clearwater. Consists of a Brownish aqueous liquid with a slight supernatant layer of oil. Negative test for alkaloids. Syrup and oil of peppermint were detected. Sample too small for complete analysis.

Lab. No. 5525, Insp. No. 20132. "Orange Exquinta." Heberly Drug Company, Kanopolis. Consists of an emulsion of oil of orange peel and acacia, to be used for making soda-water syrup. There is approximately 43.5 per cent of oil of orange by weight. Orange exquinta sells at the wholesale price of \$6 per pound, which is equivalent to paying \$13.30 a pound for oil of orange. Preparation was manufactured by the Crown Extract Company, New York.

Lab. No. 5665, Insp. No. 20207. "Imitation Oil of Cedar Compound." Chas. Taylor & Company, Liberal. Sample apparently consists of a mixture of oil of turpentine and oil of camphor. Sample miscible in all proportions of 95 per cent alcohol.

Lab. No. 5666, Insp. No. 20208. "Pepsin Tablets." Chas. Taylor, Liberal. Each tablet said to contain 2 grains of pure pepsin. The official assay showed a residue of undigested albumin of 4.6 cc. Tablets, however, had been in the laboratory for about two months.

Lab. No. 5668, Insp. No. 20210. "Oil of Pennyroyal Compound." J. C. Rubb, Fowler. Sample apparently consists of oil of pennyroyal mixed with oil of turpentine. McPike Drug Company, Kansas City, Mo., wholesaler.

Lab. No. 5708, Insp. No. 80253. "Wine of Pomelo." Manufactured by the Irondequoit Wine Company, Rochester, N. Y. Preparation declared to contain alcohol, 17 per cent by volume, 2 grs. of citrate of iron, and 7.5 grs. of cinchona to dose. Preparation was found to contain 16.65 per cent alcohol, 2 grs. of anhydrous ferrous citrate to one tablespoon, and gave test for cinchona alkaloid.

Lab. No. 5738, Insp. No. —. "Oil," said to have been used as preventive of horse plague. Oil has saponification value of 190.6; specific gravity, 0.930; the oil is evidently a mixture of linseed and fish oils. Some water was also present.

Lab. No. 5743, Insp. No. 5074. "Crude Carbolic Acid, 95 per cent." Interstate goods. Sample was found to contain 73.8 per cent phenol.

Lab. No. 5745, Insp. No. 5075. "Hair Tonic." Said to have produced symptoms of Rhus poisoning. Chemical and physiological investigation failed to show Rhus poison. Sample found to contain cinchonine, salicylic acid, water, alcohol and coumarin.

Lab. No. 5754, Insp. No. 20243. "Burdock Tonic Compound." Manufactured by the Brook's Drug Company, Battle Creek, Mich. Declared by the manufacturer to be the "greatest blood purifier, stomach renewer and strength restorer ever prepared." Specific gravity of sample, 1.13. Invert sugar, glycerin, sodium salicylate and burdock were detected. Total solids in 100 cc., 27.69. No alkaloids present.

Lab. No. 5762, Insp. No. 20256. "Kennedy's Laxative Cold Tablets." Found to contain capsicum, camphor, podophyllum, starch, cinchonine, calcium oxide. Ash, 57.4 per cent, principally calcium oxide and silica. Tablets were declared not to contain quinine sulphate. They contain, however, the cheaper alkaloid, cinchonine.

Lab. No. 5778, Insp. No. 20280. "Capsules of Aspirin Compound." C. F. Bucklin, Sawyer. John F. Milliken, St. Louis, manufacturer. The capsules contain about 6 grains, about 5.3 grains of which is aspirin. Determined as acetyl salicylic acid.

Lab. No. 5781, Insp. No. 80281. "Rexall Nice." Sample declared by the manufacturer, United Drug Company, to be a deodorant for excessive perspiration. Sample was a perfumed paste-like mass, composed largely of stearate of zinc. Sample responds to the Gutzeit test for arsenic.

Lab. No. 5782, Insp. No. 32X. "Coffee (Vacuum Treated)." Reichelieu Brand, manufactured by the Sprague-Warner Company, Chicago. Net weight of package, 1 pound. This coffee is declared by the company not to produce the bad effects on its users that are produced by other brands of coffee. The coffee seems to be a good grade; cup test characteristic of best quality of coffee; found to contain about 3.5 per cent moisture and 1.01 per cent of caffeine. It is difficult to see why this coffee would not have the same physiological effect of other coffees.

Lab. No. 5783, Insp. No. 24D. "Donald's Hair Restorer." Manufactured by Donald-Richardson Company, Iowa City. Sample was sent to this laboratory by Mr. Strait, of Winfield, to determine principally why it had changed color. Sample was found to contain 9.5 per cent alcohol; glycerin and salt of iron were present. Change of color was evidently due to the action of the salt of iron on the coloring matter in the preparation.

Lab. No. 5784, Insp. No. ———. "Cider." Sent to laboratory by Mayor Sutphen, Peabody, Kan., to determine its alcoholic content. Sample contained 4 per cent of alcohol.

Lab. No. 5785, Insp. No. ———. "Aspirin Tablets." Sent to laboratory by Dr. J. Wesselowski, Jewell. Gross weight of tablets, 5.73 grains; weight of aspirin in tablets, 4.8 grains. Tablets were declared to contain 5 grains of aspirin. Determined as acetyl salicylic acid.

Lab. No. 5786, Insp. No. ———. "Vinegar." Sent to this laboratory by Mrs. Harry Barnard, Garnett, for information concerning sediment found in vinegar. Sediment was found to be a filamentous growth of the most common acetic acid-forming bacteria.

Lab. No. 5795, Insp. No. ———. "Colic Remedy." Found to contain 90 per cent alcohol. Capsicum and morphine were detected.

Lab. No. 5796, Insp. No. 70191. "Café Special." Reed, Murdock & Company, Chicago, manufacturers. Wm. Berry, Atchison, retailer. Declared by the manufacturer to be a mixture of coffee, rye, sugar, peas, and chicory. Cup test showed characteristic taste of coffee to be unrecognizable. Rye, peas, chicory, small amount of coffee, and sugar, evidently added in form of molasses, were detected.

Lab. No. 5797, Insp. No. ———. "Gall Stone Cure." Brought to laboratory by Mr. A. LeMoine. Sample consisted entirely of sodium phosphate. The preparation was to be used in connection with calomel.

Lab. No. 5798, Insp. No. ———. "Tablets of Iodized Calcium." Sample brought to laboratory by Doctor Smith, Lawrence. Tablets were found to contain about 1.30 grains available iodine, and 0.0078 gm. of calcium iodide per tablet. Calcium iodide, calcium iodate and talc were detected.

Lab. No. 5799, Insp. No. ———. "Calcidin Tablets." Doctor Smith, Lawrence. Sample contained free iodine, very slight amount, calcium oxide, calcium iodide, calcium iodate and starch.

Each tablet contain 0.0195 mg. of available iodine and 0.0192 gms. of calcium iodide.

Lab. No. 5809, Insp. No. 26D. "Fluid Opium Concentrated." J. B. Ira & Son, Lyons. Manufacturer, Eli Lilly & Co., Indianapolis. Claimed to contain 4.8 to 5 gms. of morphine per 100 cc. Found to contain 5.07 gms. of morphine per 100 cc.

Lab. No. 5314, Insp. No. 20307. "5 gr. Aspirin Tablets." Fred L. Johnson, Wichita. Found to contain 4.78 grs. of aspirin per tablet. Determined as acetyl salicylic acid.

Lab. No. 5825, Insp. No. 20353. "Aspirin Tablets." Palace Drug Company, Manhattan. Found to contain 4.99 grs. of aspirin per tablet. Determined as acetyl salicylic acid.

Lab. No. 5848, Insp. No. 31D. "Bodi-Tone." Bodi-Tone Company, Chicago. Declared to be a tone for the whole body, to contain iron phosphate, sarsaparilla, lithia, gentian, Chinese rhubarb, Oregon grape root, cascara and Peruvian bark. The manufacturers claim the preparation will "cure disease by common-sense method, to bring the body back to nature, to build up fundamentally, to do more than cure." Iron phosphate, lithia, berberine (the principal alkaloid Oregon grape root), rhubarb, Peruvian bark and emodin-bearing drugs were detected.

Lab. No. 5349, Insp. No. 30D. "Prescription." Sent to this laboratory by J. F. Stainbrook, Parker. Said to have been compounded by druggist. The original R called for quinine sulphate, Dover's powder, of each 20 grains; capsicum, 10 grains; to be put up in ten capsules. Examination showed presence of quinine sulphate, capsicum and over 60 per cent of antimony and potassium tartrate.

Lab. No. 5852, Insp. No. —. "Surgical Dressing." Said to have been manufactured by a Chicago physician and to be very expensive. Sample was found to be composed of zinc oxide, gelatin and glycerin.

Lab. No. 5855, Insp. No. —. "Coffee." Sent to this laboratory by Dr. Hannah, to be examined for presence of poison. Sample was composed of ground coffee and a small amount of decoction. Both samples were found to contain strychnine sulphate.

Lab. No. 5851, Insp. No. —. "Dog's Stomach." Sent to this laboratory to be examined for presence of poison. Strychnine was detected.

Standards and regulations adopted by the State Board of Health, March 28, 1913. Published in the official state paper April 4, 1913.

Reg. 35—I—A-b-9.

MINCE MEAT.

Mince meat is a mixture of cooked, comminuted meat, with chopped suet, apples and other fruit, salt and spices, with sugar, syrup or molasses, with or without vinegar, fresh, concentrated, or fermented fruit juices or spirituous liquors. *The meat present is in sufficient quantity so that the total nitrogen of the mince meat is not less than 0.50 per cent.*

Condensed mince meat, when mixed with liquid as directed on the label, conforms in all respects to this standard except that not more than two (2) per cent of flour may be used as a binder. If glucose be used in any kind of mince meat, its presence must be declared on the label, using type not smaller than eight-point capitals.

As will be noted, the former standard for mince meat, as to cooked meat content, has been somewhat lowered, making this now about 5 per cent; and a standard for condensed mince meat has been added, based on the finished product ready for use.

Reg. 35—II—B-d-8.

CATCHUP.

Catchup (Ketchup, Catsup), is the clean, sound product made from properly prepared, clean, sound, fresh, ripe, whole tomatoes, with spices and with or without sugar or vinegar. *It contains not more than twenty-five (25) yeasts and spores per 1.60 cubic millimeters, and not more than twenty-five million (25,000,000) bacteria per cubic centimeter, and less than twenty-five (25) per cent of the microscopic fields show molds.* Mushroom catchup, Walnut catchup, and other catchups, are catchups made of material as above described and conform in name to the substance used in their preparation.

To the standard for catsup has been added the maximum content allowed for yeasts, bacteria and molds, thus giving a basis for determining the quality and conditions under which any lot of catsup has been made.

Reg. 3—Subdivision 15.

VINEGAR.

"Each package of vinegar, wholesale or retail, as delivered to the purchaser, shall bear a label stating the source, or kind of vinegar contained therein."

A Letter—Think About It!

The following letter from Dr. N. Hayes voices the sentiment of most sanitarians and epidemiologists that have to deal with epidemics of smallpox. It is becoming increasingly evident that it is wrong in principle to tax the community for quarantine measures in case of smallpox when every person may, at but little expense and pain, secure immunity against the disease. If, then, every person may with certainty secure freedom from smallpox, why should those who secure such immunity be taxed to protect those who refuse or neglect to do so? Several states have already abolished absolute quarantine for smallpox, simply requiring a placard to be posted as a warning sign, and all those who choose to have the disease rather than be vaccinated or who are "not afraid of the disease" may go into such placarded houses at will. Doctor Hayes' letter follows:

"The quarantine against smallpox should cease after a year's notice to that effect. This would affect the safety only of those opposed to smallpox vaccination. It is childishly sentimental, and does not rise to the dignity of official red-tapeism to continue to nurse these superstitious defects as we have in the past.

"Public duty for the common welfare begins where the power of the individual to easily and safely care for himself ends. The antivaccination sentiment is maintained by sectarian "medicine" and their willfully blind and prejudiced retainers. Society has arrived at a stage where it has no right to enforce vaccination nor to quarantine variola cases.

"The only rational and efficient method to deal with the antivaccinationists is to let them alone with good will and good feeling. It should be plainly set forth to the public from time to time that vaccination is not dangerous if properly done, and the sore arm that is so much dreaded is unnecessary, and is rightly chargeable to the vaccination.

"Your valued opinion on the proposition would be received as a compliment and a favor."

HOW IT HAPPENED.

A fly and a flea,
A mosquito and a louse,
All lived together
In a very dirty house.
The louse spread the ague,
The 'skeeter spread the chills,
And they all worked together
For undertaker's bills.

The fly spread typhoid,
And the flea spread typhus, too,
And the people in the house
Where a mighty dirty crew.
Along came a man
And he cleaned up the house,
He screened out the 'skeeter
And swatted the louse;
The fly and the flea
He smacked on the wall,
And now the people in the house
Are never sick at all.

—D. WHITE,

A Shortridge High School student, Indianapolis,
in *Indiana Bulletin*.

BULLETIN

OF THE

Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

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under the act of Congress of July 16, 1894.

S. J. CRUMBINE, M. D., Secretary and Editor.

W. J. V. DEACON, Registrar.

No. 4.

APRIL, 1913.

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How about the high cost of dying?

The clean-up and paint-up campaign is on.

The animal that eats at your table—the fly.

Cleanliness and patriotism should go together.

Health spells efficiency in the alphabet of the commercial world.

The man who harbors a breeding place for flies is an enemy to society.

"The first duty of a statesman is to preserve the public health."

—Gladstone.

Read the law passed by our recent legislature, "An act relating to cleanliness," etc., in this issue of the BULLETIN.

"No country is really free, neither is it clean nor civilized, when 300,000 of its citizens are yearly forced into beds of sickness by triumphant hosts of filth-created typhoid bacilli."

"The first wealth is health. Sickness is poor-spirited and can not serve any one. It must husband its resources to live. But health or fullness answers its own ends, and has to spare, runs over, and inundates the neighborhoods and creeks of other men's necessities."—*Emerson.*

VITAL STATISTICS

Reported to the State Board of Health for March, 1913.

CONTAGIOUS AND INFECTIOUS DISEASES.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.
The State, totals.....	17	8	55	4	213	4	87	0	2024	21
March, 1912.....	35	3	42	3	163	0	104	0	473	4
Allen.....	3	0	1	0	1	0	0	0	0	0
Anderson.....	0	0	0	0	0	0	0	0	0	0
Atchison.....	0	0	0	0	0	0	0	0	0	0
* Barber.....	0	0	0	0	2	0	1	0	1	0
Barton.....	0	0	0	0	0	0	0	0	0	0
Bourbon.....	0	0	0	0	2	0	0	0	9	0
Brown.....	0	0	0	0	0	0	0	0	9	0
Butler.....	0	0	0	0	0	0	0	0	11	0
Chase.....	1	1	0	0	0	0	0	0	9	0
Chautauqua.....	0	0	0	0	0	0	2	0	9	0
Cherokee.....	0	0	6	1	5	0	0	0	8	0
Cheyenne.....	0	0	0	0	3	0	0	0	0	0
Clark.....	0	0	0	0	0	0	0	0	0	0
Clay.....	0	0	0	0	0	0	0	0	23	0
Cloud.....	0	0	0	0	0	0	0	0	0	0
Coffey.....	0	0	0	0	0	0	1	0	20	0
Comanche.....	0	0	0	0	0	0	0	0	0	0
Cowley.....	0	0	1	0	1	0	3	0	15	0
Crawford.....	0	0	0	0	4	0	0	0	20	0
Decatur.....	0	0	0	0	0	0	0	0	0	0
* Dickinson.....	0	0	0	0	2	0	0	0	23	0
Doniphan.....	4	0	1	0	4	1	0	0	7	0
Douglas.....	0	0	0	0	11	0	0	0	3	0
Edwards.....	0	0	0	0	0	0	0	0	0	0
Ellis.....	0	0	0	0	0	0	0	0	0	0
* Ellsworth.....	0	0	0	0	0	0	0	0	25	1
Finney.....	0	0	0	0	1	0	0	0	206	1
Ford.....	0	0	2	0	1	0	0	0	0	0
Franklin.....	0	0	1	0	0	0	0	0	0	13
Geary.....	0	0	0	0	5	0	0	0	0	0
Gove.....	0	0	0	0	0	0	0	0	0	0
Graham.....	0	0	0	0	0	0	0	0	3	0
Grant.....	0	0	0	0	0	0	0	0	5	0
Gray.....	0	0	0	0	0	0	0	0	0	0
Greeley.....	1	1	0	0	0	0	0	0	0	0
Greenwood.....	0	0	0	0	0	0	0	0	1	0
Hamilton.....	0	0	0	0	0	0	0	0	2	0
Harper.....	0	0	7	0	0	0	0	0	0	0
Harvey.....	0	0	0	0	2	0	0	0	0	0
Haskell.....	0	0	0	0	0	0	0	0	5	0
Hodgeman.....	0	0	0	0	0	0	0	0	42	0
Jackson.....	0	0	0	0	1	0	0	0	29	0
Jefferson.....	0	0	0	0	0	0	0	0	80	0
Jewell.....	0	0	0	0	9	0	6	0	12	0
* Johnson.....	0	0	1	0	0	0	0	0	0	0
Kearny.....	0	0	0	0	0	0	0	0	15	0
Kingman.....	0	0	0	0	0	0	0	0	0	0
Kiowa.....	0	0	0	0	0	0	0	0	0	0
Labette.....	0	0	0	0	0	0	0	0	0	0
Lane.....	0	0	0	0	10	0	0	0	1	0
Leavenworth.....	0	0	0	0	2	0	0	0	7	0
Lincoln.....	0	0	0	0	0	0	0	0	4	0
Linn.....	0	0	0	0	0	0	0	0	1	0
Logan.....	0	0	0	0	0	0	0	0	0	0
Lyon.....	1	0	1	0	4	0	0	0	33	0
Marion.....	0	0	0	0	0	0	0	0	17	0
Marshall.....	0	0	0	0	0	0	6	0	9	0
* McPherson.....	0	0	0	0	0	0	0	0	0	0
Monroe.....	0	0	0	0	0	0	0	0	0	0

CONTAGIOUS AND INFECTIOUS DISEASES—Concluded.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths...	Cases...	Deaths...	Cases...	Deaths...	Cases...	Deaths...	Cases...	Deaths...
Miami	0	0	0	0	0	0	0	0	3	0
Mitchell	0	0	0	0	0	0	0	0	0	0
Montgomery	0	0	0	0	0	0	0	0	4	0
Morris	1	0	3	1	4	1	3	0	15	0
Morton	0	0	0	0	0	0	0	0	0	0
Nemaha	0	0	1	0	6	1	0	0	9	0
Neosho	0	0	0	0	2	0	0	0	28	0
Ness	0	0	0	0	0	0	0	0	25	0
Norton	0	0	0	0	0	0	0	0	8	0
Osage	1	0	0	0	0	0	0	0	26	0
*Osborne										
Ottawa	0	0	0	0	1	0	0	0	2	0
Pawnee	0	0	0	0	2	0	0	0	2	0
Phillips	0	0	0	0	0	0	0	0	0	0
Pottawatomie	0	0	0	0	1	0	0	0	6	0
*Pratt										
*Rawlins										
Reno	0	0	0	0	1	0	0	0	0	0
Republic	0	0	0	0	6	0	1	0	2	0
Rice	0	0	0	0	0	0	3	0	0	0
Riley	0	0	0	0	4	0	0	0	254	4
Rooks	0	0	0	0	0	0	0	0	0	0
Rush	0	0	0	0	9	0	0	0	2	0
Russell	0	0	0	0	0	0	4	0	0	0
Saline	0	0	0	0	3	0	0	0	0	0
Scott	0	0	0	0	1	0	0	0	0	0
Sedgwick	0	0	0	0	6	0	0	0	0	0
Seward	0	0	0	0	0	0	0	0	2	0
Shawnee	0	0	4	1	2	0	0	0	22	0
Sheridan	0	0	0	0	0	0	0	0	50	0
Sherman	0	0	0	0	0	0	0	0	0	0
Smith	0	0	7	0	3	0	0	0	0	0
*Stafford										
Stanton	0	0	0	0	0	0	0	0	0	0
Stevens	0	0	0	0	0	0	0	0	0	0
Sumner	1	0	0	0	1	0	25	0	1	0
Thomas	0	0	0	0	0	0	0	0	1	0
Trego	0	0	0	0	0	0	0	0	0	0
Wabasha	0	0	0	0	0	0	0	0	26	0
Wallace	0	0	0	0	0	0	13	0	0	0
Washington	0	0	0	0	5	0	0	0	5	0
Wichita	0	0	0	0	0	0	0	0	0	0
Wilson	0	0	0	0	1	0	6	0	13	0
Woodson	0	0	0	0	3	0	0	0	39	0
Wyandotte	0	0	0	0	4	0	0	0	3	0
Cities:										
Atchison	0	0	2	0	0	0	0	0	9	0
Coffeyville	1	0	0	0	0	0	0	0	1	0
Fort Scott	0	0	0	0	0	0	0	0	0	0
Hutchinson	0	1	0	0	1	0	0	0	2	0
Independence	0	0	0	0	0	0	0	0	0	0
Kansas City	3	0	4	0	11	0	3	0	400	0
Lawrence	0	0	0	0	0	0	0	0	0	0
Leavenworth	0	0	2	0	3	0	0	0	5	0
Parsons	0	0	4	0	13	0	4	0	10	0
Pittsburg	0	0	4	1	5	1	10	0	2	0
Topeka	0	0	2	0	5	0	0	0	374	0
Wichita	0	0	1	0	10	0	2	0	18	0

* No report from county health officer.

"Why protect cattle from Texas fever and not protect people from typhoid and malarial fever?"

"Why conserve the life of the forest and not conserve the life of the forester and of his children?"

Third Annual Summer School for Physicians and Health Officers, at the University of Kansas, Lawrence,

June 23d to 28th, Inclusive, 1913.

Under the auspices of the Kansas State Board of Health and the School of Medicine of the University of Kansas. All practitioners and students of medicine are invited to attend. Course free.

PROGRAM.

MONDAY, June 23, 1913.

Registration at Snow Hall, during forenoon.

3:00 P. M. Annual meeting of State Association of Health Officers, Snow Hall.

8:00 P. M. Evening session of Association of Health Officers, parlors of Eldridge Hotel.

TUESDAY, June 24.

8:30 A. M. Opening of Second Annual Summer School for Physicians and Health Officers, Snow Hall. Chancellor Strong.

9:00 to 11:00 A. M. Laboratory—Dr. T. H. Boughton, Professor of Pathology and Bacteriology, School of Medicine, University of Kansas. Collection of samples of water, milk, sewage, for bacteriological examination. Plating out samples. Counting colonies. Presumptive tests for *B. Coli*. Confirmatory tests. Identification of typhoid bacillus in water. Widal agglutination test.

11:00 A. M. Lecture—Water-borne Diseases: Epidemiology of typhoid fever, methods of control, etc. L. L. Lumsden, M. D., surgeon, United States Public Health Service, Washington, D. C.

2:00 P. M. Lecture—Water-borne Diseases: Cholera, dysentery, "winter diarrhoea," etc. L. L. Lumsden, M. D., surgeon, United States Public Health Service, Washington, D. C.

3:30 to 5:00 P. M. Lecture—A Social and Industrial Study of Tuberculosis in Our Cities of the First Class J. J. Sippy, M. D., epidemiologist, State Board of Health.

5:00 to 6:00 P. M. Lecture—A Study of the Births and Deaths in Kansas for 1912. W. J. V. Deacon, state registrar vital statistics

8:00 P. M. Illustrated Lecture—Insects and Public Health. Professor S. J. Hunter, entomologist, University of Kansas.

WEDNESDAY, June 25.

9:00 to 11:00 A. M. Laboratory—Milk and Water Bacteriology. Dr. T. H. Boughton, professor of pathology and bacteriology.

11:00 A. M. Lecture—Rural Sanitation. Dr. W. C. Rucker, assistant surgeon general, United States Public Health Service, Washington, D. C.

2:00 P. M. Lecture—Rural Sanitation and Public Health. Dr. W. C. Rucker, assistant surgeon general, United States Public Health Service, Washington, D. C.

- 3:30 P. M. Lecture—The Compulsory Notification of Tuberculosis Law. Dr. C. S. Kenney, superintendent Kansas Sanatorium for Tuberculosis.
- 5:00 P. M. Round Table—Dr. S. J. Crumbine, secretary Kansas State Board of Health.
- 8:00 P. M. Annual Banquet—Association of Health Officers. Eldridge Hotel.

THURSDAY, June 26.

- 9:00 to 11:00 A. M. Laboratory—A Study of the Human Blood. Dr. T. H. Boughton, professor of pathology and bacteriology.
- 11:00 A. M. Lecture—Dr. W. A. Evans, professor preventive medicine, Rush Medical College, and former health officer, Chicago.
- 2:00 P. M. Lecture—Dr. W. A. Evans, professor preventive medicine, Rush Medical College, and former health officer, Chicago.
- 3:30 P. M. Round Table—Dr. S. J. Crumbine, secretary Kansas State Board of Health.
- 5:00 P. M. Lecture—Drug Adulteration and Drug Standards; Demonstration. Professor L. E. Sayre, dean of school of pharmacy and drug analyst State Board of Health, University of Kansas.
- 8:00 P. M. Public Lecture, Snow Hall—Dr. W. A. Evans, professor preventive medicine, Rush Medical College, and former health officer, Chicago. Public cordially invited.

FRIDAY, June 27.

- 9:00 to 11:00 A. M. Laboratory—Laboratory Methods in Diagnosis. Dr. T. H. Boughton, professor of pathology and bacteriology.
- 11:00 A. M. Lecture—(Subject later.) Dr. John L. Hurty, secretary Indiana State Board of Health, Indianapolis.
- 2:00 P. M. Laboratory Demonstration.
- 3:30 P. M. Lecture—(Subject later.) Dr. John L. Hurty, secretary Indiana State Board of Health, Indianapolis.
- 5:00 P. M. Antitoxins, Serums and Vaccines. Dr. T. H. Boughton, professor of pathology and bacteriology.

SATURDAY, June 28.

Bell Memorial Hospital, Rosedale, Kan.

- 11:00 A. M. Clinic in Surgical Wards. Doctors Sudler, Sutton and Hertzler.
- 2:00 to 4:00 P. M. Clinic in Medical and Obstetrical Wards. Doctors Milne and Guffey.
- 4:00 to 6:00 P. M. Clinic in Eye, Ear, Nose, and Throat. Doctors Sawtell, Lidi-
kay, and May.

"No rogue e'er felt the halter draw, with good opinion of the law."—Shakespeare.

"Why conserve the life of trees and fight the San José scale, and not conserve the people who eat the oranges?"

FOOD ANALYSIS No. XLIII.

By **PROF. E. H. S. BAILEY**, Ph. D., chemist for the State Board of Health, and director chemical laboratories, and **OSCAR A. HARDER**, M. A., food analyst.

Most of the samples here reported have been analyzed during the months of February and March, but some of them represent work done before that time.

CANNED GOODS.

Insp. No. 20295. Label, "President Green Gage Plums. President California Fruit. Serial No. 6739." Retailer, Lichty Bros., Wellington. The sample was a "swell," contained 430 mg. of metallic tin as salts of tin per kilo, and showed signs of decomposition. Illegal.

Insp. No. 20295½. Same as 20295. "Swell." Fruit in a fermented and decomposed condition when opened, and contained 460 mg. of metallic tin as salts of tin per kilo. Illegal.

Insp. No. 20296. Label, "President Muscat Grapes. President California Fruit." Retailer, Lichty Bros., Wellington. "Swell." Fruit inferior and in a fermented condition. Contained 330 mg. of tin per kilo. Illegal.

Insp. No. 20296½. Same as 20296. "Swell." Fruit fermented and decomposed. Tin, 579 mg. per kilo. Illegal.

Insp. No. 5628. Label, "Big Spring Brand, Hand Packed Tomatoes. First Quality, Guaranteed to comply with the Pure Food Laws." Jobber, Wichita Wholesale Grocery Co., Wichita; packed by Frank A. Reynolds, Troutville, Va.; retailer, Hayes & Edman, Great Bend. Sample taken on complaint of retailers. On opening cans from this lot the odor of gasoline was given off. Illegal.

Insp. No. 90006. Label, "Black Raspberries, Winson Brand, Serial No. 1575." Packed by Edgett-Burnham Co., Newark, N. Y.; jobber, Wichita Wholesale Grocery Co., Wichita; being used by S. Dunkin, bakery, Wichita. Sold by wholesaler at a very cheap price. Three cans tested. All "swells." Fruit inferior and in a somewhat decomposed condition. The tin found was 175.6, 239.5, and 240.6 mg. per kilo for the cans examined. Illegal.

Insp. No. 90018. Label, "Black Raspberries, Choice of the Kitchen (CK) Brand, Serial No. 6585." Packed by Wayne County Canning Co., Marion, Wayne County, New York; bought from jobber, Wichita Wholesale Grocery Co., Wichita. Six cans examined. All "swells." Fruit in an inferior and decomposed condition. The tin found was 315.5, 196.5, 268.8, 149.1, 424.0, 188.6 mg. per kilo. Illegal.

Insp. No. 90024. Label, "Green Island Brand Peas. Net weight of contents, 20 to 22 ounces. Serial No. 18144. Only Peas, Sugar, Salt and Water used in the manufacture of these goods." Packed for Kansas Wholesale Grocery Co., Coffeyville; retailer, W. N. Rothrock, Cedar Vale. These peas were adulterated with flower buds of a *Compositæ* family. Illegal.

CIDERS.

Insp. No. 9965. Label, "Apple Cider." Manufacturer, Frisco Cider Co., St. Louis, Mo.; retailer, O. J. Wymer, Greensburg. Alcohol, 10.8 per cent. Illegal.

Insp. No. 90002. Label, "Black Berry Cider." Manufacturer, Los Angeles Fruit Products Co., St. Louis, Mo.; retailer, M. Paulin, Wichita. Alcohol, 6.86 per cent. Artificially colored with a coal-tar dye and preserved with benzoic acid. Illegal.

Insp. No. 90003. Label, "Grape Cider." Manufacturer, Los Angeles Fruit Products Co., St. Louis, Mo.; retailer, M. Paulin, Wichita. Alcohol, 6.10 per cent. Artificially colored with a coal-tar dye and preserved with benzoic acid. Illegal.

Insp. No. 90004. Label, "Peach Cider." Manufacturer, Los Angeles Fruit Products Co., St. Louis, Mo.; retailer, M. Paulin, Wichita. Alcohol, 5.47 per cent. Artificially colored with a coal-tar dye and preserved with benzoic acid. Illegal.

Insp. No. 90005. Label, "Apple Cider." Manufacturer, Los Angeles Fruit Products Co., St. Louis, Mo.; retailer, M. Paulin, Wichita. Alcohol, 5.86 per cent. Watered and preserved with benzoic acid. Illegal.

Insp. No. 90019. Label, "Cherry Cider." Manufacturer, Los Angeles Fruit Products Co., St. Louis, Mo.; retailer, Murray & McFarland, Wichita. Alcohol, 6.78 per cent. Artificially colored with a coal-tar dye and preserved with benzoic acid. Illegal.

SHREDDED COCOANUT.

Insp. No. 70044. Label, "Dunham's Original Shred Cocoanut." Manufacturer, Dunham Manufacturing Co., Brooklyn, N. Y.; retailer, J. W. Withers & Son, Fort Scott. Contained added sugar and glycerine.

Insp. No. 70048. Passed.

Insp. No. 70050. Passed.

Insp. No. 70051. Passed.

FOOD COLOR.

Insp. No. 7717. Label, "No.-A1 Pure Condensed Food Colors. Violet Food Color. This color is composed of the following ingredients and none other: Aniline color and sugar. It is harmless

and made especially for coloring food." Manufacturer, C. H. Sturat & Co., Newark, N. Y.; retailer, Mrs. H. L. Justus, agent, Emporia. Passed as to color, but misbranded. Not a very concentrated food color.

DRIED FRUIT.

Insp. No. 70172. Label, "Muir Peaches." Manufacturer, Rosenberg Bros. & Co., San Francisco, Cal. Bleached with sulphur dioxide and contained unusually high amount of sulphur dioxide.

Insp. No. 70214. Label, "Evaporated Peaches." Jobber, Geo. N. Herbert, San José, Cal.; retailer, E. M. Newman, Sabetha. Bleached with sulphur dioxide, and not so labeled. Illegal.

Insp. No. 70215. Label, "Evaporated Apricots." Jobber, W. M. Hoyt Co.; retailer, W. M. Newman, Sabetha. Bleached with sulphur dioxide, and not so labeled. Illegal.

FLAVORS.

Insp. No. 20021. "Extract Vanilla." Passed.

Insp. No. 20061. Label, "Tr. Vanilla." Manufacturer, Cartmell Pharmacy, Kansas City, Kan.; retailer, Cartmell Pharmacy, Kansas City, Kan. Below standard. Illegal.

Insp. No. 20113. Label, "Tinct. of Vanilla." Retailer, Lee Gramly, Clay Center. Claimed to be made from "Olio-Vanild," Hardesty Manufacturing Co., Denver. Below standard, strengthened with artificial vanillin and colored with caramel. Illegal.

Insp. No. 20115. "Ext. Vanilla." Passed.

Insp. No. 20138. Label, "Ext. Vanilla." Retailer, Corner Pharmacy, Beloit. Composed largely of artificial vanillin, coumarin, and colored with caramel. Illegal.

Insp. No. 20152. Label, "Pure Extract of Vanilla for Flavoring." Manufacturer, B. H. McEckron, Palace Drug Store, Concordia; retailer, Geo. M. McEckron, Concordia. Below standard and colored with caramel. Illegal.

Insp. No. 20152A. "Vanilla Ext." Passed.

Insp. No. 20182. "Vanilla Concrete." Passed.

Insp. No. 6706. Label, "2 Ounces Goodrich Quality Vanilla Extract, 40 per cent Alcohol. Gtd. Serial 3353." Manufacturer, Goodrich Drug Company, Omaha, Neb.; retailer, Peck Bros., Rantoul. Below standard. Illegal.

Insp. No. 7980. Label, "Non Alcoholic Vanilla." Manufacturer, Non Alcoholic Extract Company, St. Louis, Mo.; retailer, J. R. Brewster, Leavenworth. Below standard. Illegal.

Insp. No. 70053. "Extract Vanilla." Passed.

Insp. No. 70095. "Compound Extract Vanillin." Passed.

Insp. No. 70125. "Vanilla Extract." Passed.

Insp. No. 70136. "Extract Vanilla." Passed.

Insp. No. 70137. "Extract Vanilla." Passed.

Insp. No. 70192. Label, "Extract of Vanilla, Pure. Guaranteed under the Food & Drugs Act of June 30, 1906." Packed by J. H. Brown & Co., Atchison; retailer, Hoffman Grocery Co., Atchison. Below standard. Illegal.

(To be continued in May Bulletin)

The Friedman Cure.

The surgeon-general of the United States Public Health Service detailed a board of medical officers to investigate Doctor Friedman's alleged cure for tuberculosis. Doctor Friedman has submitted to the board a culture of the bacteria which he states are used in his method of treatment. In addition to the observation of persons under treatment by Doctor Friedman, the board of officers will make experiments to ascertain whether this culture is, as Doctor Friedman claims, harmless to warm-blooded animals.

Considerable time will necessarily be required to carry out these investigations. The work will be carried on as rapidly as possible.

In the meantime the public is informed of the inadvisability of tuberculosis patients traveling long distances in the hope of receiving the treatment. Those to whom it is administered for demonstration purposes are selected by the hospital authorities from among their patients; the number selected constituting only a small proportion of available volunteers.

Certain statements purporting to be expressions of the opinion of the board of officers of the Public Health Service carrying on the investigation have appeared in the newspapers. These officers have expressed no opinion and will not be in position to do so until the work has advanced sufficiently far to warrant some conclusion in regard to Doctor Friedman's treatment.—*Public Health Reports.*

FLIBITUS.

[A DEPARTMENT GIVEN OVER TO FLIES.]

Each housewife should constitute herself a committee of one to fight flies. A few minutes spent each day at lessening their number will pay the biggest dividends of any small job around the house, as that not only gives peace and comfort, but also cuts down doctor bills and lengthens life.

Any method that gets rid of one fly is good; a method that gets rid of two flies is better, and so on. Fly paper is good, but you have to wait until the fly allows itself to be stuck, and some flies are very perverse about this. Poisoned water helps, but often the flies seem to be immune.

Pyrethrum powder burnt in a house stupefies flies until they may be swept up and destroyed. A little of this burnt in the morning in the

rooms which are then aired, will make the house exempt from flies all day. Twenty drops of carbolic acid put on a hot shovel or any piece of iron creates a vapor that kills flies, making a simple and effective remedy. The common mignonette plant grown in jars and placed in a room makes home life unpleasant to the house fly, while Nature has given us another simple remedy in the common white clover found in almost every yard. Gather a handful in the morning and place it in a vase, and watch the flies hunt the open; its odor is very offensive to them. The clover should be renewed every day or so, for when dry it irritates the nostrils.

A cheap and effective poison, not dangerous to human life, is bichromate of potash in solution. One drachm dissolved in two ounces of sweetened water and placed in shallow dishes will dispose of many flies. Another remedy which for all purposes probably has no equal is a solution of formalin or formaldehyde in water. A spoonful of this liquid in a quarter of a pint of water left exposed in a room will kill all the flies in it. Flies are also exceedingly sensitive to light. By closing all the blinds of a room except one, the flies will seek the open one, when they can be easily driven out.

In the war against the house fly, cleanliness is the heavy artillery, vigilance the machine guns, and determination the Mausers. If each home is made an outpost on the firing line, the most dangerous animal in the world—that kills more human beings than all the beasts of prey and all the poisonous serpents together—will take to its heels.—*Exchange.*

"HOUND FLY."

Every fly that comes to town
Keeps a layin' its eggs aroun';
Makes no difference where they 're foun'
We gotta keep a' swattin' those flies aroun'.
—*Ashville Bulletin.*

UP AND AT HIM.

Swat the fly, the pesky fly!
For swatting him's no blunder!
If you don't swat, next week it means
A million more, by thunder!

THE LITTLE FLY.

Consider now the little fly, whose name is rhymed with "baby-bye." He has his birth in the manure, crawls forth and loiters in the sewer, and, smeared with deadly typhoid germs, he leaves his brother maggot-worms, unfolds his dainty wings of silk and dumps his microbes in the milk, where their huge numbers mount and mount, increasing the bacterial count until they reach the food supply some woman feeds her "baby-bye."

The fly comes gaily to us, his feet all gummed with poison-pus, and singing clear his song so sweet, alights and cleans them on the meat. He gathers scarlet-fever spores and leaves them on the walls and floors; he

is not proud, and oft will stoop to carry heavy loads of croup, and place it where its awful death may come and go with baby's breath. Oh, do not call him indolent! He calls that summer day misspent in which he's failed to load the breeze with the live germs of some disease; and if he finds them not, though hurt, he'll be content with just plain dirt.—*Exchange*.

AN ACT RELATING TO CLEANLINESS AND THE ELIMINATION OF FLY-BREEDING PLACES.

The recent legislature gave the typhoid fly (house fly), the infantile paralysis fly (stable fly) and the mosquito a jolt by passing a law which, if rigidly enforced, is calculated to put the aforesaid pests out of business.

Health officers should see to it that the law is published in the local papers, together with a warning that its provisions will be literally enforced. The law follows:

AN ACT relating to cleanliness in cities of the first and second class, and providing penalties for the violation thereof.

Be it enacted by the Legislature of the State of Kansas:

SECTION 1. It shall be unlawful for any person to throw, place, deposit or leave or cause to be thrown, placed, deposited or left, in any of the public streets, highways, alleys, parks or thoroughfares of any city of the first and second class, any dirt, filth, sewerage, sweepings, dung, excrement, compost, papers, stable manure, boxes, ashes, lumber, coal, wood, kindling, grass, weeds, vegetables, slops or litter of any kind, from and after the taking effect of this act, except as provided in section 2 of this act.

SEC. 2. That the space in the rear of any business lot, house or mercantile establishment, between the rear of the building and the alley line, if any such vacant space there be, shall at times be kept clean and clear of all of the matter set out in section 1 of this act, and the occupant or occupants of the ground floor of any such business house or mercantile establishment, as set forth hereinbefore, shall be, and is, and are hereby charged with the duty of keeping the said space clean, except such refuse or filth deposited by other occupants of said building, whose duty it shall be to remove the same.

SEC. 3. That the owner of the ground floor or the occupant thereof, if the same be not occupied by the owner of said ground floor or dwelling house, shall be charged with the duty of keeping the alley in the rear of such ground floor or dwelling house clean and free from the matter in section 1 of this act.

SEC. 4. That in the month of April in each year, the owners, or if not occupied by the owners, the occupant or occupants of any real property in cities of the first and second class, shall cause the said premises to be cleaned up of all the matter set out in section 1 of this act and the same shall be removed out of the city, or burned or buried.

SEC. 5. That the district court of the county in which such city is situated, or the city court or the county court in any such city, shall have original and concurrent jurisdiction to enforce this act.

SEC. 6. The adoption by any city of the first or second class of the provisions of this act, as an ordinance, or any ordinance passed by such city relative to cleanliness, shall not in anywise limit the jurisdiction of the courts set forth herein.

SEC. 7. That within six months from the date of the taking effect of this act, every householder shall provide a receptacle, made either

of iron, steel, stone, brick or cement, in which to place and deposit the matter set forth in section 1 hereof, and cause all such matter mentioned in section 1 hereof to be placed in said receptacle, and the contents thereof, when the same shall have been filled, shall be carried beyond the limits of the city, or burned or buried.

SEC. 8. The word "person" in this act shall be construed and interpreted to mean the owners or occupants of property, agents, servants, officers and managers of copartnerships or corporations.

SEC. 9. That any person who violates this act shall upon conviction be fined in a sum not to exceed one hundred dollars, or imprisoned in the county jail not to exceed thirty days, or by both such fine and imprisonment, as the court may adjudge.

SEC. 10. That nothing in this act shall prevent any person who may be improving his property from encumbering the streets, avenues or alleys under a permit from the proper officers of the city, but in the event of such encumbering of the streets with building material or earth necessary for the improvement being made, the contractor shall clean up said premises thoroughly within ten days from the completion of the work.

SEC. 11. This act shall be in force and take effect from and after publication in the official state paper.

THE HOUSE FLY AND BACTERIA.

In response to the general demand for more definite knowledge on this subject, Doctors Cox, Lewis and Glynn, working in the Thompson-Yates laboratories in Liverpool, have made a very thorough comparative study of "the number and varieties of bacteria carried by the common house fly in sanitary and unsanitary city areas." Their study is reported in the October number of the *Journal of Hygiene*. Descriptions of the areas investigated are given, together with the methods of catching the flies, of estimating the number of bacteria carried, etc. It is possible here to indicate only the most important conclusions reached in the summary of the work.

1. Over 450 naturally infected flies (*Musca domestica*) were examined, and it was found that the amount of pollution of a liquid resulting from the flies' vomitus or excrement, or from their wallowing in the liquid, varied from 2000 bacteria in 5 minutes to 350,000 in 30 minutes.

2. Flies from sanitary areas carried from 21,000 to 800,000 bacteria, while from the congested, unsanitary districts the number were from 800,000 to 500,000,000 per fly.

3. The number of intestinal organisms on flies from the two types of districts held the same relationship, sanitary areas showing 100 to 10,000, unsanitary areas 10,000 to 333,000,000 per fly.

4. Pathogenic bacteria and those allied to the food-poisoning groups were isolated from flies from the unsanitary areas, never from the sanitary areas.

5. Other organisms isolated were streptococci, staphylococci, sarcinae, *B. pyocyaneus*, *B. coli*, etc.

6. Flies caught in milk stores were more highly contaminated than those from other food establishments.

7. If food is abundant flies migrate only very short distances, so that the number and degree of contamination often may be taken as criteria of the sanitation of the area.

8. Organisms identical to Morgan's infantile diarrhea group were isolated. In districts where infantile diarrhea is rare flies carry fewer bacteria than in sections where the intestinal disturbance is common.

9. "As the amount of dirt carried by flies in any particular locality, measured in terms of bacteria, bears a definite relation to the habits of the people and the state of the streets, it demonstrates the necessity of efficient municipal and domestic cleanliness, if the food of the inhabitants is to escape pollution, not only with harmless but also with occasional pathogenic bacteria."—*The American Journal of Public Health*.

PRIZE ESSAYS ON "THE HOUSE FLY AS A CARRIER OF DISEASE."

Last year the State Board of Health offered prizes in certain cities of the first class for the best essays submitted by a grade pupil on the subject, "The House Fly as a Carrier of Disease."

The following first and second prize essays from the city of Topeka are typical of a number that were submitted from other cities, and show the interest that has been aroused throughout the state by our antily fly campaign. The essays follow:

[Seventh and Eighth Grade Series.—First Prize.]

THE HOUSE FLY AS A CARRIER OF DISEASE.

FRANCES BAKER, Lowman Hill School; age 15, 8 B grade. Mrs. Russel.

Wherever people or animals are, there are flies. "Fly" is applied to a great many insects, of which the house fly is most commonly known. The head of the fly is small, but the eyes are large and contain a great many facets. Flies have a sucking apparatus, from which is secreted a fluid which makes hard substances soft, and by which they obtain their food. They can walk on a perfectly smooth surface, even on the ceiling, by means of the little sucker-like hairs on the bottom of their feet.

They like to stay in the filthiest places, such as manure piles, stables, on dead animals, in outhouses, and a great many other places. Then, of course, as they like a change of food, they come and light upon the screen door, and when it is opened they come in (without being invited), and light upon the table, in our milk, on the cake, pie, meat, and various other things, and leave the germs which they have collected from other places.

The fly does not lay less than one hundred eggs, and generally about five hundred. It takes the eggs about twenty-four hours to hatch; they are then called maggots. In the course of from seven to ten days they become pupæ, and then flies. In a great many flies the eggs hatch within the body of the insect, and the living larvæ are deposited. The larva is commonly termed a grub, or maggot, and is footless, and frequently almost structureless.

Thus, flies multiply very rapidly, and if we did not try to get rid of them there would soon be more than we could stand, and our general health greatly impaired. There are more than 40,000 species. One fly captured last summer in New York city was found to be carrying on his mouth and legs over 100,000 bacteria.

People in Europe and other eastern places used to believe that it was very wrong to kill any kind of insects. The flies carried the germs of

ophthalmia from one person to another until there was hardly an adult with perfect eyes.

The fly is now almost universally recognized as one of the most formidable foes of the human race. Rattlesnakes are less to be feared in most localities. It is an old device to let a fly crawl about on a sterilized plate of nutritive gelatin, such as is commonly employed for growing cultures of bacteria. At first there is no sign; but, after a few hours in the incubator, the insect's track on the gelatin is outlined in flourishing colonies of microbes.

Typhoid fever, cholera, plague and tuberculosis have been transmitted by flies. If care is not taken to prevent the fly entering the sick room, he will go in, light upon the patients and annoy them; he will find all the dirty corners and all the germs they contain; then he will go to some place where the people are well and deposit the germs.

We should "swat" the flies and put plenty of "Tanglefoot" around where they can help themselves. One pint of castor oil and two pounds of resin make a very good tanglefoot.

Our motto should be, with Walt Mason, "Swat the flies and boil the germs."

[Seventh and Eighth Grade Series.—Second Prize.]

THE HOUSE FLY AS A CARRIER OF DISEASE.

ADRIENNE CODY, Central Park School; 16 years, 8 B grade. Miss Lena Davis.

I am a fly. I'm not very old and am just learning where to find the best things to eat. My favorite places are in the spittoon in the sitting room and the uncovered garbage can on the back porch. Of course, some flies would be bothered about having to go out of doors to get to that can. But it does n't worry me. In the house where I live there are n't any screens, so I can fly from the garbage can to the spittoon in perfect safety. I often stop on the way, though, to get in the sugar bowl or crawl over any eatables that are handy.

There's a baby in this house who annoys me very much. Every time I leave the spittoon and crawl into that baby's mouth it cries and spits me out. Of course, I leave a few tuberculosis germs in its mouth, but it does n't seem like that would hurt the baby.

It seems to me like people don't know what is good to eat; at least the people in this house don't. Why, they throw away all the good things. They put them in the garbage pail. I am endeavoring to show them what good things are, however, for I get my feet all sticky in the garbage can and then go and wipe them on the bread. About a hundred of my companions are doing the same thing. I really believe that the people are beginning to like it, for they never trouble us any more. We wipe our feet on the bread in peace and quiet.

I heard the woman across the way say that she believed flies had something to do with the man in this house having consumption. I wonder if he got it from the bread.

The woman across the way is losing all her flies. They're all coming over to our house. She won't give them anything to eat. She covers up her garbage pail, has tight screens on all her doors, and is a terror to flies in general. Her children are such happy, hearty youngsters, while the children in this house are always cross. They never get any afternoon nap. The flies won't let them.

There's a very great deal of illness in this house. Two of the boys have malaria and the father is never well. I heard the mother say to the woman across the way: "I really do not know what to do for all this sickness. It drives me distracted." What do you think that woman said? Why, "Swat the fly," of course. At which I ducked. Oh, yes; the baby has the typhoid.

.SWAT.

My country, 'tis to you
I pray, with much ado,
Hark to my cry!
Land of our pilgrim dads,
Land of almighty scads,
Drop all and sundry fads
And swat that fly!

You of that sturdy stock
Which 'on old Plymouth Rock
Stood high and dry,
Banish our wild alarm
At that which works us harm;
Uplift a mighty arm
And swat that fly!

And you, bold immigrants,
Put on your working pants,
Without a sigh,
Slash for your country's good,
Smash as a workman should,
Bash as a patriot would
And swat that fly!

All grab a club and stand
Pat for our happy land,
Not a man shy,
Don't wait till it is fall;
Now is your country's call!
All in a chorus bawl,
"O, SWAT that fly!"

—*Chicago Tribune.*

"Doc Williams." A New Novel with a Mission.

A new novel by a Kansas author has recently made its appearance on the book market, which bids fair to be one of the "best sellers." The author, Dr. Charles H. Lerrigo, a member of the Kansas State Board of Health and President of the State Association for the Study and Prevention of Tuberculosis, has shown his ability as a writer by a number of articles that have recently appeared in eastern magazines and papers.

His production of "Doc Williams" marks a new era in public health work in that the morals set forth in the book deal, in the main, directly with many of our public health problems, by clarifying the atmosphere of much of the fog of superstition and mysticism surrounding supposed "cures," the fundamentals of personal hygiene and the propagation and dissemination of communicable diseases.

The homely but wholesome philosophy of the old doctor, the rugged character of David, the perfectly human love experiences of the hero and heroine interwoven with the plot, and the play and work of a modern western college add zest and spice to the ever increasing interest that grips the reader as the story unfolds.

Every physician and health officer, and certainly every sick person, will be materially helped and the general public very greatly entertained and instructed by reading this book.

AN EPOCH.

First, Johnny caught the whooping cough from little Alfred Brown,

And when he'd had it for a while, then sister Bess came down;
And 'fore she'd had it very long, Jean Mary (that's her twin)
Decided that it probably was high time to begin.

And pretty soon Ned took it, too, and then came baby Belle;
(By this time John and sister Bess were pretty nearly well).

I had n't caught it all this time, and I just bragged a lot,
But one fine day I gave a cough, and knew just what I'd got!

We whooped it up, we children did, for seven months or eight;
And ever since that awful year the family can date,

Whatever happens, from "the time we all had whooping cough."
How long, before or since, things were, we all can tell right off.

"Yes," Pa will say, "the hotel fire was just the year before
Our whooping cough." And Ma will say, "The one in Anson's
store

Was while we had it—that's the time that Doctor Green moved
here."

We'll settle any doubtful date by figuring from that year.

—*Texas Bulletin.*

BULLETIN

OF THE

Kansas State Board of Health.

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S. J. CRUMBINE, M. D., Secretary and Editor.

W. J. V. DEACON, Registrar.

No. 5.

MAY, 1913.

VOL. IX

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CLEAN UP!

Have you read "Doc Williams"?

The stable fly should be scotched also.

When in doubt, boil the drinking water.

The unscreened home is the season's greatest danger.

Beware of ice-cold drinks in excessively hot weather.

Some people still continue to diagnose smallpox with their noses.

"Our national health is physically our greatest national asset."

—Roosevelt.

"The care of the public health has become the first duty of the state."— Mayo.

Physicians who refuse to report their cases of tuberculosis will have to answer to the courts.

The indigent poor of the state may be treated at the hospital of the School of Medicine at Rosedale. Direct inquiries to the editor.

VITAL STATISTICS

Reported to the State Board of Health for April, 1913.

CONTAGIOUS AND INFECTIOUS DISEASES.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.
The State, totals.....	15	0	39	5	124	4	223	2	1980	5
April, 1912.....	35	3	42	3	163	0	104	0	473	4
Allen.....	0	0	0	0	1	0	6	0	0	0
Anderson.....	0	0	0	0	0	0	3	0	0	0
Atchison.....	0	0	0	0	0	0	1	0	11	0
Barber.....	0	0	0	0	0	0	0	0	0	0
*Barton.....	0	0	0	0	0	0	0	0	0	0
Bourbon.....	0	0	0	0	1	0	0	0	0	0
Brown.....	0	0	0	0	0	0	0	0	11	0
Butler.....	0	0	0	0	0	0	0	0	14	0
Chase.....	0	0	0	0	0	0	0	0	12	0
Chautauqua.....	0	0	0	0	0	0	1	0	110	0
Cherokee.....	0	0	0	0	0	0	0	0	0	0
Cheyenne.....	0	0	0	0	0	0	0	0	0	0
Clark.....	0	0	0	0	0	0	0	0	0	1
Clay.....	0	0	0	0	0	0	0	0	37	0
Cloud.....	0	0	0	0	0	0	0	0	7	0
Coffey.....	0	0	0	0	2	0	2	0	0	0
Comanche.....	0	0	0	0	0	0	0	0	1	0
Cowley.....	0	0	0	0	1	0	0	0	21	0
Crawford.....	0	0	1	0	1	1	2	0	3	0
Decatur.....	0	0	0	0	0	0	0	0	0	0
*Dickinson.....	0	0	0	0	0	0	0	0	0	0
Doniphan.....	0	0	1	1	1	0	0	0	25	0
Douglas.....	0	0	2	0	0	0	1	0	0	0
Edwards.....	0	0	0	0	2	0	0	0	20	0
Elk.....	0	0	0	0	0	0	0	0	18	2
Ellis.....	0	0	0	0	0	0	0	0	0	0
Ellsworth.....	0	0	0	0	0	0	0	0	0	0
Finney.....	0	0	0	0	0	0	0	0	0	0
Ford.....	0	0	0	0	1	0	0	0	107	0
Franklin.....	0	0	0	0	0	0	2	0	20	0
Geary.....	0	0	0	0	0	0	0	0	5	0
Gove.....	0	0	0	0	0	0	2	0	0	0
Graham.....	0	0	0	0	0	0	0	0	0	0
Grant.....	0	0	0	0	0	0	0	0	0	0
Gray.....	0	0	0	0	0	0	0	0	20	0
Greeley.....	0	0	0	0	0	0	0	0	0	0
Greenwood.....	0	0	0	0	0	0	0	0	11	0
Hamilton.....	0	0	0	0	0	0	0	0	0	0
Harper.....	0	0	0	0	0	0	0	0	2	0
Harvey.....	0	0	1	0	2	0	0	0	1	0
Haskell.....	0	0	0	0	0	0	0	0	7	0
Hodgeman.....	0	0	0	0	0	0	0	0	25	0
Jackson.....	0	0	0	0	0	0	0	0	4	0
Jefferson.....	0	0	0	0	0	0	0	0	35	0
Jewell.....	0	0	0	0	2	0	0	0	0	0
*Johnson.....	0	0	0	0	0	0	0	0	0	0
Kearny.....	0	0	0	0	0	0	0	0	0	0
Kingman.....	0	0	1	0	2	0	0	0	35	0
Kiowa.....	0	0	0	0	0	0	0	0	0	0
Labette.....	0	0	1	0	2	0	0	0	16	0
Lane.....	0	0	0	0	2	0	0	0	3	0
Leavenworth.....	0	0	1	0	0	0	0	0	1	0
Lincoln.....	0	0	0	0	0	0	0	0	5	1
Linn.....	0	0	0	0	0	0	0	0	14	0
Logan.....	0	0	0	0	0	0	0	0	1	0
Lyon.....	0	0	2	0	0	0	0	0	103	0
Marion.....	1	0	0	0	1	0	0	0	72	0
Marshall.....	0	0	0	0	0	0	4	0	57	0
McPherson.....	0	0	0	0	0	0	13	0	1	0
Meade.....	0	0	0	0	1	0	0	0	0	0

* No report from health officer.

CONTAGIOUS AND INFECTIOUS DISEASES - Concluded.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.
Miami	0	0	0	0	0	0	0	0	4	0
Mitchell	0	0	0	0	0	0	0	0	2	0
Montgomery	0	0	0	0	1	0	0	2	50	0
* Morris	0	0	0	0	0	0	0	0	0	0
Morton	0	0	0	0	0	0	0	0	0	0
Nemaha	1	0	0	0	0	0	5	0	0	0
Neosho	0	0	0	0	0	0	2	0	20	0
Ness	0	0	0	0	2	0	0	0	80	2
Norton	0	0	0	0	0	0	0	0	12	0
Osage	0	0	0	0	0	0	0	0	25	0
Osborne	0	0	0	0	2	0	0	0	8	0
Ottawa	0	0	0	0	0	0	0	0	3	0
Pawnee	0	0	0	0	0	0	0	0	40	0
Phillips	0	0	0	0	0	0	0	0	10	0
Pottawatomie	0	0	1	0	1	0	0	0	9	0
Pratt	1	0	0	0	2	0	2	0	14	0
Rawlins	0	0	2	0	2	0	0	0	4	0
* Reno	0	0	0	0	0	0	0	0	0	0
Republic	6	0	0	0	2	0	2	0	25	0
Rice	0	0	0	0	0	0	4	0	50	0
Riley	0	0	0	0	0	0	0	0	119	0
Rooks	0	0	0	0	0	0	0	0	0	0
Rush	0	0	2	1	0	0	0	0	0	0
Russell	0	0	0	0	0	0	0	0	0	0
Saline	0	0	0	0	1	0	0	0	1	0
Scott	0	0	0	0	1	0	0	0	0	0
Sedgwick	0	0	0	0	0	0	1	0	4	0
Seward	0	0	0	0	0	0	0	0	0	0
Shawnee	0	0	1	1	1	0	1	0	20	0
Sheridan	0	0	2	0	0	0	3	0	15	0
Sherman	0	0	0	0	0	0	0	0	1	0
Smith	1	0	2	1	1	0	0	0	0	0
Stafford	0	0	0	0	0	0	0	0	4	0
* Stanton	0	0	0	0	0	0	0	0	0	0
Stevens	0	0	0	0	0	0	0	0	54	0
Sumner	1	0	1	0	0	0	45	0	29	0
Thomas	1	0	2	0	0	0	0	0	0	0
Trego	0	0	0	0	1	0	0	0	25	0
Wabaunsee	0	0	0	0	0	0	0	0	24	0
Wallace	0	0	0	0	0	0	0	0	3	0
Washington	0	0	0	0	0	0	0	0	2	0
Wichita	0	0	0	0	0	0	0	0	0	0
Wilson	0	0	0	0	0	0	24	0	0	0
Woodson	2	0	0	0	0	0	0	0	62	0
Wyandotte	0	0	0	0	4	0	0	0	2	0
Cities:										
Atchison	0	0	0	0	0	0	0	0	0	0
Coffeyville	0	0	0	0	0	0	0	0	2	0
Fort Scott	0	0	0	0	0	0	0	0	1	0
Hutchinson	0	0	0	0	1	0	2	0	12	0
Independence	0	0	0	0	0	0	0	0	0	0
Kansas City	1	0	4	0	20	0	5	0	193	0
Lawrence	0	0	0	0	0	0	0	0	0	0
Leavenworth	0	0	1	0	1	0	0	0	4	0
Parsons	0	0	2	0	13	0	10	0	21	0
Pittsburg	0	0	2	1	20	2	60	0	2	0
Topeka	0	0	4	0	1	0	0	0	118	0
Wichita	0	0	1	0	2	0	5	0	24	0

* No report from county health officer.

"But I believe that the conservation of men and women is of paramount importance in this world."—William Jennings Bryan.

DEATHS AND BIRTHS IN KANSAS, Months of January, February, and March, 1913.

DEATHS.

Stillbirths not included.

Typhoid fever.....	43
Smallpox.....	1
Measles.....	28
Scarlet fever.....	28
Whooping cough.....	39
Diphtheria.....	51
Dysentery.....	0
Tuberculosis, all forms.....	319
Cancer, all forms.....	254
Rheumatism, all forms.....	43
Diabetes.....	84
Other general diseases.....	180
Meningitis.....	57
Cerebral hemorrhage.....	262
Paralysis.....	127
Other diseases nervous system.....	105
Organic heart disease.....	405
Other diseases circulatory system.....	144
Broncho-pneumonia.....	413
Pneumonia.....	506
Other diseases respiratory system.....	166
Diarrhea and enteritis (under 2 years).....	122
Diarrhea and enteritis (2 years and over),.....	55
Appendicitis.....	61

Diseases of liver and adnexa.....	79
Peritonitis.....	81
Other diseases digestive system.....	109
Acute nephritis.....	30
Bright's disease.....	222
Other diseases genito-urinary system.....	60
The puerperal state.....	68
Diseases of the skin, etc.....	13
Diseases of the bones, etc.....	5
Malformations.....	84
Diseases of early infancy.....	356
Old age.....	330
Suicides.....	48
Accidents.....	211
Homicides.....	17
Ill-defined diseases.....	82
Total deaths.....	5,338

BIRTHS.

Males.....	4,589
Females.....	4,466
White, 3,869. Colored, 186.	
Total births, 9,055.	
Stillbirths, 271.	

AGES AT DATE OF DEATH.

Ages.	No.
-1.....	950
1-2.....	204
3-5.....	108
6-10.....	93
11-15.....	87
16-20.....	129
21-25.....	190
26-30.....	200
31-35.....	170
36-40.....	156
41-45.....	159
46-50.....	199
51-60.....	514
61-70.....	774
71-80.....	862
81-90.....	468
91-100.....	67
100-+.....	4
Unknown.....	4
Total.....	5,338

SEX.	No.
Males.....	2,869
Females.....	2,469
COLOR.	
White.....	4,997
Chinese.....	0
Indian.....	11
Black.....	330
SOCIAL CONDITION.	
Single.....	1,974
Married.....	2,164
Widowed.....	1,115
Divorced.....	40
Unknown.....	45
NATIONALITY.	
Native.....	4,582
Foreign.....	723
Unknown.....	83
Total.....	5,338

VITAL STATISTICS.

Reported to the Kansas State Board of Health for January,
February and March, 1913.

STILLBIRTHS NOT INCLUDED.

COUNTIES.	January.		February.		March.	
	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.
Allen	55	38	29	31	35	24
Anderson	30	17	11	10	12	11
Atchison	30	32	17	36	62	29
Barber	13	9	12	4	55	8
Barton	33	22	58	25	42	16
Bourbon	35	25	32	27	42	27
Brown	34	17	35	11	48	26
Butler	56	17	27	21	34	16
Chas	23	14	21	4	18	7
Chautauqua	25	9	27	8	15	9
Cherokee	90	64	77	59	93	52
Cheyenne	10	1	10	3	9	3
Clark	10	6	13	3	14	4
Clay	35	17	19	14	21	18
Cloud	56	17	25	22	41	16
Coffey	21	17	28	17	25	16
Comanche	9	2	14	4	5	5
Cowley	61	40	63	36	66	42
Crawford	116	70	125	81	119	59
Decatur	15	4	11	9	16	8
Dickinson	52	21	21	17	81	25
Doniphan	27	9	29	7	30	17
Douglas	25	26	20	35	25	29
Edwards	26	6	23	7	15	2
Elk	28	4	18	9	26	11
Ellis	37	6	43	5	43	11
Ellsworth	16	12	31	15	16	11
Finnney	10	6	5	9	7	11
Ford	35	17	25	17	27	17
Franklin	27	27	28	31	44	27
Geary	21	9	20	11	19	10
Gove	8	3	6	1	7	3
Graham	5	5	25	3	15	7
Grant	1	0	0	1	0	0
Gray	5	0	3	3	7	0
Greeley	6	0	2	1	1	3
Greenwood	41	10	13	10	23	9
Hamilton	1	1	0	0	3	2
Harper	32	12	41	7	23	13
Harvey	27	33	51	11	51	24
Haskell	1	0	0	1	6	1
Hodgeman	4	4	5	1	4	7
Jackson	11	16	26	17	31	15
Jefferson	26	16	26	26	30	19
Jewell	32	17	21	15	34	18
Johnson	28	14	28	26	20	16
Kearny	2	3	8	1	5	3
Kingman	14	6	14	7	26	6
Kiowa	24	4	9	1	3	3
Labette	48	52	50	37	71	35
Lane	2	0	2	1	5	2
Leavenworth	40	48	33	59	50	60
Lincoln	31	8	23	8	25	14
Linn	39	13	31	15	31	23
Logan	5	1	2	3	0	1
Lyon	54	17	47	34	48	30
Marion	48	36	51	20	61	12
Marshall	38	15	37	23	33	22
McPherson	36	24	58	18	38	20
Meade	11	6	13	3	10	5
Miami	21	26	18	30	34	29
Mitchell	29	13	10	12	30	15
Montgomery	36	52	70	52	83	57
Morris	31	12	24	6	19	24
Morton	0	0	0	0	0	0
Nemaha	57	17	35	15	39	21

BIRTHS AND DEATHS FOR JANUARY, FEBRUARY, MARCH—Concluded.

COUNTIES.	January.		February.		March.	
	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.
Neosho.....	32	24	52	29	48	28
Ness.....	11	5	12	8	6	4
Norton.....	18	10	17	14	28	9
Osage.....	45	24	31	16	40	21
Osborne.....	17	17	16	7	25	16
Ottawa.....	20	10	12	8	8	2
Pawnee.....	17	10	14	9	22	8
Phillips.....	16	18	25	10	18	8
Pottawatomie.....	16	17	16	15	46	11
Pratt.....	24	5	17	10	16	11
Rawlins.....	3	7	10	4	18	3
Reno.....	72	22	53	39	84	38
Republic.....	17	14	34	21	33	18
Rice.....	32	8	32	17	27	14
Riley.....	36	14	26	10	30	16
Rooks.....	28	9	26	9	26	5
Rush.....	14	5	32	7	14	2
Russell.....	25	10	18	11	22	10
Saline.....	41	22	33	27	38	16
Scott.....	8	1	6	1	1	4
Sedgwick.....	132	88	102	69	73	51
Seward.....	10	4	6	4	9	1
Shawnee.....	108	118	101	108	96	82
Sheridan.....	9	4	9	2	7	0
Sherman.....	9	5	6	3	6	2
Smith.....	34	12	9	2	45	15
Stafford.....	24	12	29	11	31	12
Stanton.....	0	1	0	0	1	0
Stevens.....	0	0	7	1	11	0
Sumner.....	55	34	45	31	61	19
Thomas.....	9	0	3	2	5	5
Trego.....	14	1	6	1	10	2
Wabaunsee.....	13	8	9	1	37	15
Wallace.....	2	2	3	1	3	0
Washington.....	35	22	39	21	40	17
Wichita.....	1	2	1	2	2	0
Wilson.....	42	24	34	25	39	5
Woodson.....	15	7	6	8	11	8
Wyandotte.....	188	200	168	140	191	152

FOOD ANALYSIS No. XLIII.

By PROF. E. H. S. BAILEY, Ph. D., chemist for the State Board of Health, and director chemical laboratories, and OSCAR A. HARDER, M. A., food analyst.

(Continued from April Bulletin.)

Insp. No. 80202. "Extract Vanilla." Passed.

Insp. No. 9548. Label, "Blue Ribbon Vanilla Extract." Packed for Blue Ribbon Creamery and Ice Co., Shawnee, Okla.; retailer, Moore Grocery Co., Topeka. Not a true vanilla extract. Illegal.

IMITATION FLAVORS.

As defined in Regulation 25 of the Kansas State Board of Health, page 39, and published in the official state paper December 21, 1909:

"25. AN IMITATION FLAVORING is an uncolored solution consisting largely of artificial flavoring substances dissolved in ethyl alcohol of proper strength, is labeled as an imitation, and conforms in name to the flavor imitated."

Insp. No. 70115. Label, "Crown, Imitation Flavor of Vanillin and Coumarin." Manufactured for Rohlfing & Co., Leavenworth; retailer, A. L. Neal, Clay Center. Colored with caramel. Illegal.

Insp. No. 70169. Label, "Crown, Imitation Flavor of Vanillin and Coumarin." Manufactured for Rohlfing & Co., Leavenworth; jobber, Rohlfing & Co., Leavenworth. Colored with caramel. Illegal.

The following experiments will be of interest, showing the results obtained in the use of some of the imitation flavors.

A pudding made as directed for "blanc mange" on package of Kingsford's Oswego Corn Starch, except that only corn starch, sugar and milk were used, was divided into seven cupfuls and each flavored with one of the extracts listed below until quite strong. They were allowed to cool, and then four persons were asked to taste them and to say what the flavor was. They were told that they were to imitate different fruits.

Insp. No.	Flavor.	First person.	Second person.	Third person.	Fourth person.
6647	Strawberry.....	Banana.	Uncertain.	Strawberry.	Pink candy.
6652	Banana.....	Banana.	Uncertain.	Strawberry.	Strawberry.
6653	Raspberry.....	Flat.	Cinnamon.	Wintergreen.	Wintergreen.
7942	Strawberry.....	Raspberry.	Wintergreen.	Almond.	Vanilla.
9691	Banana.....	Banana.	Uncertain.	Banana.	Banana.
9692	Raspberry.....	Raspberry.	Strawberry.	Almond.	Vanilla.
9693	Strawberry.....	Corn starch.	Uncertain.	Uncertain.	Strawberry.

Insp. No. ———. Label, "Fitts's Genuine Imitation Strawberry Flavoring." Manufacturer, Fitts Manufacturing Company, Pueblo, Colo.; retailer, R. M. Norris, Rozel. Colored with a coal-tar dye. Old stock.

GELATIN.

As defined in Regulation 35 of the Kansas State Board of Health, page 24, and published in the official state paper December 21, 1909:

"7. GELATIN (EDIBLE GELATIN) is the purified, dried, inodorous product of the hydrolysis, by treatment with boiling water, of certain tissues, as skin, ligaments, and bones, from sound animals, and contains not more than two (2) per cent of ash and not less than fifteen (15) per cent of nitrogen."

Insp. No. 9881. Label, "Gelatin, Silver Leaf Brand." Manufacturer, Ad. Seidel & Sons, Chicago, Ill.; retailer, Geo. Pappas, Parsons. Ash, 2.16 per cent.

Insp. No. 9884. "Gelatin." Passed.

GRAPE JUICE.

Insp. No. 70027.	Passed.	Insp. No. 70086.	Passed.
Insp. No. 70055.	Passed.	Insp. No. 70111.	Passed.
Insp. No. 70056.	Passed.	Insp. No. 70112.	Passed.
Insp. No. 70058.	Passed.	Insp. No. 70114.	Passed.
Insp. No. 70079.	Passed.	Insp. No. 70116.	Passed.
Insp. No. 70081.	Passed.	Insp. No. 70117.	Passed.

HONEY.

As defined in Regulation 35 of the Kansas State Board of Health, page 32, and published in the official state paper December 21, 1909:

"1. HONEY is the nectar and saccharine exudations of plants gathered, modified, and stored in the comb by honey bees (*Apis mellifica* and *A. dorsata*); is lævo-rotatory, contains not more than twenty-five (25) per cent of water, not more than twenty-five hundredths (0.25) per cent of ash, and not more than eight (8) per cent of sucrose."

Insp. No. 20009. Label, "Honey." Manufacturer, a farmer; retailer, National Drug Store, Salina. Below standard.

Insp. No. 5569. Honey. Passed.

Insp. No. 5570. Honey. Passed.

Insp. No. 5571. Honey. Passed.

Insp. No. 7788. Honey. Passed.

Insp. No. 7790. Honey. Passed.

Insp. No. 70118. Label, "Bear Brand Pure Honey, Serial No. 873." Distributed and guaranteed by Bliss Syrup Refining Co., Kansas City, Mo.; retailer, Bee Hive Grocery, Clay Center. Below standard.

Insp. No. 70150. Honey. Passed.

Insp. No. 9354C. Honey. Passed.

Insp. No. 9357. Honey. Passed.

Insp. No. 9361. Honey. Passed.

Insp. No. 9375. Honey. Passed.

ICE CREAM.

Insp. No. 9312C. Ice cream. Passed.

GROUND MEAT.

Insp. No. 9865. Ground Meat. Passed.

Insp. No. 9866. Ground Meat. Passed.

Insp. No. 9868. Ground Meat. Passed.

NUTS.

Insp. No. 20293. English Walnuts. Passed.

Insp. No. 20294. English Walnuts. Passed.

Insp. No. 20297. English Walnuts. Passed.

Insp. No. 20298. English Walnuts. Passed.

Insp. No. 20299. Pecans. Passed.

Insp. No. 20300. Glazed Pecans. Passed.

Insp. No. 20301. Pecans (Native). Passed.

Insp. No. 20302. Label, "Brazil Nuts." Jobber, Jett & Wood, Wellington; jobber, Wellington Produce Co., Wellington. Passed.

OLIVE OIL.

Insp. Nos. 80247 and 80258. Passed.

PICKLES.

Insp. Nos. 9921 and 9922. Passed.

CANDY.

Insp. No. 6710. Chocolate Candy. Passed.

POWDERED SUGAR.

As defined in Regulation 35 of the Kansas State Board of Health, page 30, and published in the official state paper December 21, 1909:

"1. SUGAR is the product chemically known as sucrose (saccharose), chiefly obtained from sugar cane, sugar beets, sorghum, maple or palm."

"2. GRANULATED, LOAF, CUT, MILLED OR POWDERED SUGARS are different forms of sugar, and contain at least ninety-nine and five-tenths (99.5) per cent of sucrose."

Insp. No. 70030. Label, "Defiance Brand Sugar, Powdered, 2 per cent Starch." Packed for Letts Spencer Grocer Co., St. Joseph, Mo.; retailer, Hoverson & Force, Sabetha. Should not contain starch.

Insp. No. 70083. Label, "Powdered Sugar." Manufacturer, G. W. Chase & Son, St. Joseph, Mo.; retailer, Stuart & Bowman, Wathena. Contains starch. Adulterated.

SYRUPS.

Insp. No. 6713. Label, "Polar Bear Drips. Composed of one-third Sugar Syrup, two-thirds Corn Syrup; Guaranteed by The Bliss Syrup Refining Co. under the Food & Drugs Act June 30, 1906. Serial No. 873." Manufacturer, Bliss Syrup Refining Co., Kansas City, Mo.; retailer, Johnson Co. Coöp. Assn., Olathe. Misbranded; not a pure drips syrup.

Insp. No. 6714. Label, "Pancake Drips Syrup Compound; Corn Syrup, 85 per cent; Refiners' Syrup, 15 per cent." Manufacturer, Bliss Syrup Refining Co., Kansas City, Mo.; retailer, Johnson Co. Coöp. Assn., Olathe. Misbranded; not a pure drips syrup.

Insp. No. 70088. Label, "Farmer Jones Pride Country Sorghum and Corn Syrup with Cane Flavor. Sorghum, 45 per cent; Corn Syrup, 45 per cent; Refiners' Syrup, 10 per cent." Manufacturer, Fort Scott Sorghum Syrup Co., Fort Scott; packed for Winfield Wholesale Grocery Co., Winfield; retailer, Chas. H. Heleker, Frankfort. High in ash.

VINEGAR.

Insp. No. 5711. Label, "Jeffries' Blended Cider and Distilled Vinegar, Composed of Four-Fifths Pure Apple Cider Vinegar and One-Fifth Distilled Vinegar." Manufactured by Henry S. Jeffries, Ottawa; retailer, Henry S. Jeffries, Ottawa. Misbranded.

Insp. No. 70225. "Pure Cider Vinegar." Passed.

Insp. No. 70233. "Vinegar." Said to be country vinegar. Retailer, G. H. Hall, Marysville. Below standard.

VINEGARS: Samples Insp. Nos. 70061, 9797, 9798, 9800, 9801 and 9810 are probably diluted vinegar, sold prior to the time given for the disposition of such products; as such their sale would now be illegal under the special vinegar law governing cider vinegar, which requires this to be a straight generator run product, not diluted or reduced.

FOOD ANALYSIS No. XLIV.

By Prof. J. T. WILLARD, Analyst for the Board, and C. A. A. UTT, Assistant.

MANHATTAN, KAN., May 12, 1913.

We present herewith the results of the examination of a considerable number of samples of certain classes of foods.

CATSUP.

Two years ago a large number of samples of catsup were taken from the open market and sent to this laboratory for examination. With the coöperation of Prof. L. D. Bushnell, of the Department of Bacteriology, counts were made of the molds, yeasts and spores and bacteria, and a brief report was made for the annual meeting, June 12, 1911. These examinations were regarded as preliminary for the purpose of ascertaining the condition of the goods on the market. Since then other samples have been submitted from time to time and these show a considerable improvement in quality. The Board of Health did not establish a standard until March, 1913. Most of the samples reported upon at this time were taken before that date. We do not therefore designate them as "passed" or "illegal," but indicate their quality in general terms, including a statement of the molds, yeasts and spores and the bacteria. According to the standard adopted by the Board, catsup "contains not more than twenty-five (25) yeasts and spores per one-sixtieth cubic millimeter, and not more than twenty-five million (25,000,000) bacteria per cubic centimeter, and less than twenty-five (25) per cent of the microscopic fields show molds." The figures for these organisms as given in the statement below will enable one to compare the samples with the standard.

CATSUPS.

Insp. No. 80162. Tomato Catsup, Sunflower brand. Jobber, Dolan Mercantile Co., Atchison, and obtained from the State Hospital at Osawatomie. Molds in 34 per cent of fields; yeasts

and spores, 21 in one-sixtieth of one cmm.; bacteria, about 26,000,000 per cc. High in molds and bacteria.

Insp. No. 9774. Tomoto Catsup. Earll's brand, manufactured by the Earll Manufacturing Co., Kansas City, Mo.; jobber, Chanute Wholesale Grocery Co., Chanute, Kan. Molds in 24 per cent of fields; yeasts and spores, 41 in one-sixtieth cmm.; bacteria, 81,000,000 per cc. High in bacteria and in yeasts and spores.

Insp. No. 9807. Tomato Catsup, Snider's brand, manufactured by the T. A. Snider Preserve Co., Cincinnati, Ohio. Jobber, W. M. Wade & Sons, Independence, Kan. Molds in 22 per cent of fields (first count) and in 24 per cent of fields (second count); yeasts and spores, 18 in one-sixtieth cmm.; bacteria, about 34,000,000 per cc. High in bacteria.

Insp. No. 9809. Tomato Catsup, Snider's brand, manufactured by the T. A. Snider Preserve Co., Cincinnati, Ohio. Jobber, W. M. Wade & Sons, Independence, Kan. Molds, first count in 24 per cent, and second count in 22 per cent of fields; yeasts and spores, 21 in one-sixtieth cmm.; bacteria, about 55,000,000 per cc. High in bacteria.

Insp. No. 9808. Tomato Catsup, Snider's brand, manufactured by the T. A. Snider Preserve Co., Cincinnati, Ohio. Jobber, W. M. Wade & Sons, Independence, Kan. Molds, first count, in 26 per cent, and second count in 20 per cent of fields; yeasts and spores, about 20 in one-sixtieth cmm.; bacteria, about 48,000,000 per cc. High in bacteria.

Insp. No. 70090. Vegetable Catsup, Greenleaf brand, manufactured by the Otto Kuehne Preserving Co., Topeka, Kan., and sold by Mooney & Kneffer, Blue Rapids, Kan. Molds in 20 per cent of fields; bacteria about 41,000,000 per cc. High in bacteria.

Insp. No. 9917. Tomato Catsup, High Up brand, manufactured by the Guyman-Petro Mercantile Co., Hutchinson, and sold by the Star Grocery Co., Liberal, Kan. Molds in 36 per cent of fields; yeasts and spores, about 150 in one-sixtieth cmm.; bacteria about 55,000,000 per cc. High in organisms of all kinds.

Insp. No. 9926. Catsup, Hampton brand, manufactured by the Bental Pickling and Canning Co., Bay City, Mich., and sold by J. W. Dickens, Bucklin, Kan. Molds in 15 per cent of fields; yeasts and spores, very few; bacteria, about 16,800,000 per cc.

Insp. No. 70144. Catsup, Mayflower brand, packed by Western Grocery Co. Mills, Marshalltown, Ia., and sold by J. J. Smith, Marysville, Kan. Molds in 18 per cent of fields; yeasts and spores, very few; bacteria, about 13,000,000 per cc.

Insp. No. 70145. Tomato Ketchup, Table Talk brand, manufactured by R. C. Chance & Sons, Philadelphia, Penn., and sold by August Hohn & Son, Marysville, Kan. Molds in 20 per cent of fields; yeasts and spores, 17 in one-sixtieth cmm.; bacteria, 21,000,000 per cc.

Insp. No. 9967. Tomato Catsup, Symns brand, manufactured by the Symns Grocery Co., Atchison, and sold by Lin Frazier, Fowler, Kan. Molds in 38 per cent of fields; yeasts and spores, 30 in one-sixtieth cmm.; bacteria, 32,000,000 per cc. Molds, bacteria and yeasts high.

Insp. No. 9969. Tomato Catsup, Forbes Crown brand, manufactured by the Forbes Bros. Tea and Spice Co., St. Louis, Mo., and sold by W. H. Cather & Son, Fowler, Kan. Molds in 17 per cent of fields; yeasts and spores, 20 in one-sixtieth cmm.; bacteria, 19,200,000 per cc.

Insp. No. 9970. Tomato Catsup, Symns brand, manufactured by the Symns Grocery Co., Atchison, and sold by A. N. Melgren, Bloom, Kan. Molds in 35 per cent of fields; yeasts and spores, 28 in one-sixtieth cmm.; bacteria, 32,000,000 per cc. Molds, bacteria and yeasts high.

Insp. No. 70149. Tomato Catsup, Acropolis brand, in tin can, packed for the Nave-McCord Mercantile Co., St. Joseph, Mo., and sold by M. Barlow, Marysville, Kan. Molds in 16 per cent of fields; yeasts and spores, 16 in one-sixtieth cmm.; bacteria, about 18,000,000 per cc.

Insp. No. 6720. Oyster Cocktail Catsup, Blue Point brand, manufactured by the National Pickle and Canning Co., St. Louis, Mo., and sold by L. E. Holmgren, Marquette, Kan. Molds in 16 per cent of fields; yeasts and spores, 20 in one-sixtieth cmm.; bacteria, about 19,000,000 per cc.

Insp. No. 90083. Tomato Catsup, Phoenix brand, manufactured by the National Pickle and Canning Co., St. Louis, Mo.; jobber, the Winfield Wholesale Grocery Co., Winfield, Kan.; sold by Brookshire Bros., Winfield. Molds in 34 per cent of fields; yeasts and spores, about 33 in one-sixtieth cmm.; bacteria, 60,000,000 per cc. High in organisms of all kinds.

Insp. No. 70190. Tomato Catsup, Premium brand, manufactured by the National Pickle and Canning Co., St. Louis, Mo., and sold by J. H. Cox, Atchison, Kan. Molds in 36 per cent of fields; yeasts and spores, 28 in one-sixtieth cmm.; bacteria, about 46,000,000 per cc. Sample also contained 0.12 per cent of sodium benzoate. High in organisms and misbranded. Preservative not stated.

Insp. No. 70197. Tomato Catsup, Symns brand, sold by John J. Intfen, Atchison, Kan. Jobber, Symns Grocery Company, Atchison. Molds in 14 per cent of fields, yeasts and spores, 17 in one-sixtieth cmm.; bacteria, 21,000,000 per co.

Insp. No. 90099. Tomato Catsup, Premium brand, manufactured by the National Pickle and Canning Co., St. Louis, Mo., and sold by the Hatton Arbuckle Trading Co., Weir City, Kan. Molds in 32 per cent of fields; yeasts, 35 in one-sixtieth cmm.; bacteria, 48,000,000 per co. High in bacteria.

Insp. No. 90147. Tomato Catsup, High Up brand, manufactured by the Harbauer-Marleau Co., Toledo, Ohio, and sold by the Guymon-Petro Mercantile Co., Hutchinson, Kan. Molds in 28 per cent of fields; yeasts, about 30 per one-sixtieth cmm; bacteria, 50,000,000 per co. High in bacteria.

Insp. No. 90048. Tomato Catsup, Elk's Pride brand, manufactured by the Harbauer-Marleau Co., Toledo, Ohio, and sold by the Guymon-Petro Mercantile Co., Hutchinson, Kan. Molds in 30 per cent of fields; yeast and spores, 60 in one-sixtieth cmm.; bacteria, about 84,000,000 per co. High in bacteria.

PICKLES, ETC.

The standard provides pickles be without any metallic compound other than salt

Insp. No. 80163 Chow Chow (no label). Jobber, Symns Grocery Co., Atchison; obtained at the Asylum, Osawatimie. Sample gave reactions for benzoates, turmeric and alum. Benzoate and turmeric should be stated on label. Should not contain alum.

Insp. No. 9764. Sweet Pickles, Harvest Home brand. Jobber, Jett-Wood Grocery Co., Wichita; sold by D. J. Harens, Wellington. Alum present. Should not contain alum.

Insp. No. 9768. Sour Pickles, Prairie brand, manufactured by the Wm. Henning Co., Chicago; jobber, Jett-Wood Grocery Co., Wichita; sold by E. B. Brothers, Wellington. Alum and turmeric present. Should not contain alum. Turmeric should be stated.

Insp. No. 90073. Sweet Gherkins, Williams Ten Penny brand, manufactured by Williams Bros., Detroit, Mich.; jobber, Davis Mercantile Co., Topeka; sold by W. H. Houser & Bro., Topeka. No reactions for benzoates, alum, turmeric, etc.

Insp. No. 90095. Sour Pickles, Magic City brand, manufactured by Squire Dingee, Chicago, Ill.; jobber, Joplin Grocery Co., Joplin, Mo.; seller, Clay H. Burnett, Girard, Kan. Sample reacts for an aluminum salt. Should not contain alum.

Insp. No. 90097. Sweet Pickles, Hiawatha brand, manufactured by M. A. Gedney Co., St. Paul and Minneapolis, Minn.; jobber, Joplin Grocery Co., Joplin, Mo.; seller, Lewis Grocery Co., Scammon, Kan. Samples give reactions for turmeric and for an aluminum salt. Should not contain alum. Presence of turmeric should be stated.

Insp. No. 90102. Pickles, Magic City brand, manufactured by Squire Dingee, Chicago, Ill.; jobber, Ryley, Wilson Grocery Co., Kansas City, Mo.; seller, E. Druart, Frontenac, Kan. Sample reacts for small amount of an aluminum salt. Should not contain alum.

Insp. No. 90111. Pickles, Kuner's Gherkins brand, manufactured by the Kuner Pickle Co., Denver, Colo.; jobber, Ranney-Davis Mercantile Co., Arkansas City, Kan.; seller, H. B. Myers, Löwe, Kan. Sample gave reactions for turmeric and an aluminum salt. Should contain no alum. Presence of turmeric should be stated.

Insp. No. 90112. Sweet Pickles, Fox River brand, manufactured by Alart & McGuire, Green Bay, Wis.; jobber, Coffeyville Mercantile Co., Coffeyville, Kan.; seller, F. B. Garrett, Sedan, Kan. Sample gave reactions for turmeric and for aluminum salt. Should contain no alum. Presence of turmeric should be stated.

SAUSAGE.

STANDARD.—“Cereal sausage is a sausage to which has been added not more than four per cent of cereal, and which contains no greater percentage of water than does normal meat of the kind used in preparing the sausage.”

Insp. No. 6680. Pork Sausage, sold by F. D. Coryell, Junction City. No reactions for preservatives. Sample contained cereal represented by 1.12 per cent of starch.

Insp. No. 70194. Sausage, Swift's Premium brand, manufactured by Swift & Co., U. S. A., and sold by Bosanki & Poehler, Atchison. No reactions for preservatives or coloring matter. Sample contains cereal as represented by reaction for starch.

MILK.

STANDARD.—“Milk should contain not less than eight and one-half (8.5) per cent of solids not fat, and not less than three and one-quarter (3.25) per cent of milk fat, and contain no preservative, added water, or other foreign substance.”

Insp. No.	Serial No.	SELLER.	Place.	Fat.	Total Solids.	Solids not fat.	Class.
9871	10869	W. R. Roush	Topeka	3.35	12.19	8.85	Passed.
9872	29870	..	..	3.85	12.49	8.64	..
9960	10422	Owl Grocery, No. 1.	..	4.30	13.20	8.90	..
9963	10425	N. Roush	..	4.60	13.35	8.76	..
9968	10430	Wm. Green & Son	..	3.60	12.75	9.15	..
9980	10432	Y. M. C. A.	..	4.20	13.14	8.94	..
9981	10433	..	..	3.80	12.68	8.58	..
70168	10479	City Dairy	Fort Scott	4.60	14.51	9.90	Illegal.*
9986	10499	Producers' Creamery	Topeka	3.50	12.31	8.81	Passed.
9996	10500	..	..	3.40	12.00	8.60	..
9999	10503	..	..	3.35	12.03	8.68	..
90001	10519	R. F. Shaw	Wichita	3.20	12.03	8.53	..
8727	10542	W. D. Houck	Council Grove	3.95	12.86	8.91	..
8781	10552	Olof Olson	Argentine	2.80	9.74	6.94	Illegal.
8732	10553	M. E. Fisher	Kansas City	3.60	13.02	9.42	Passed.
8733	10554	L. Van Moe	Argentine	3.00	10.99	7.99	Illegal.
8734	10555	H. H. Souder	Kansas City	3.00	11.09	8.09	..
8735	10556	..	..	3.60	11.19	7.59	..
8736	10557	M. J. Morely	..	3.80	12.04	8.24	..
8737	10558	J. C. Termier (Gus Olson)	..	3.00	10.16	7.16	..
8738	10560	Davidson & Branson	Argentine	3.80	13.47	9.67	Passed.
8739	10561	Bert Cheetwood	..	4.40	13.99	9.59	..
8740	10562	A. Boyd	Turner	3.80	12.81	9.01	..
8741	10563	J. E. Johnson	Argentine	3.85	14.13	10.28	..
8742	10564	J. Caple	Kansas City	3.70	11.73	8.03	Illegal.
8743	10565	J. M. Ryerly	Rosedale	3.70	12.78	9.08	Passed.
8744	10566	P. Claassen & Son	..	3.00	10.51	7.51	Illegal.
8745	10567	Geo. Gerner	..	4.00	13.37	9.37	Passed.
8746	10568	E. R. Slater	..	3.30	12.47	9.47	..
8747	10569	J. R. Heintzelman	..	6.20	15.24	9.04	..
8748	10570	W. C. Myers	..	4.20	12.98	8.68	..
80298	10720	Gray & Chance	Topeka	3.00	11.17	8.17	Illegal.
90089	10756	..	..	3.90	13.60	9.70	Passed.
90090	10757	..	..	3.60	12.24	8.64	..
90091	10758	..	..	4.10	12.77	8.67	..
90092	10759	J. D. Brown	..	3.50	12.34	8.80	..
90094	10761	Gray & Chance	..	4.00	12.10	8.10	..
90124	10789	Throop Hotel	..	0.40	9.53	9.13	Illegal.

* Illegal because of hairs, manure and other dirt in sample.

CREAM.

STANDARD.—"Cream is fresh and clean, contains not less than eighteen (18) per cent of milk fat, and contains no preservative or other foreign substance."

Insp. No.	Serial No.	SELLER.	Place.	Milk fat.	Class.
9929	10408	Eaton Hotel (J. N. Gurgens)	Wichita	14.30	Illegal.
9951	10423	Owl Grocery, No. 1.	Topeka	19.20	Passed.
9952	10424	N. Roush	..	18.00	..
9954	10426	..	..	34.40	..
9955	10427	Robt. E. Jones	..	17.80	..
9956	10428	Gem Grocery	..	15.90	..
9957	10429	Wm. Green & Son	..	17.80	..
9959	10431	Y. M. C. A.	..	20.70	Passed.
9987	10470	Kansas Club	Wichita	14.00	Illegal.
9988	10493	W. T. Calvin	Topeka	19.60	Passed.
9989	10494	..	..	28.00	..
9990	10495	Topeka Pure Milk Co.	..	29.60	..
9991	10496	..	..	19.60	..
9992	10497	Gem Grocery	..	16.00	Illegal.
9994	10498	C. M. Blanchard	..	11.10	..
9997	10501	Producers' Creamery	..	17.60	..
9998	10502	..	..	28.80	Passed.
90000	10518	R. F. Shaw	Wichita	36.00	..
90025	10547	F. J. Lenenberger	Topeka	20.40	..
90027	10548	H. B. Tiegreen	..	24.00	..
90028	10549	C. M. Blanchard	Wichita	26.40	..
90038	10760	J. D. Brown	Topeka	27.50	..
90084	10749	C. F. Cannon	..	20.49	*Belowstand.
90085	10750	Gem Grocery Co. (Fred Miller)	..	20.00	Passed.
90086	10751	Ziegler & Son	..	18.00	..
90087	..	O. W. Detrich	..	8.00	Illegal.
90088	..	..	..	11.60	..

* Whipping cream.

ICE CREAM.

Insp. No.	Serial No.	SELLER.	Place.	Per cent fat.	Class.
9825	5220	Crawford Creamery Co.	Pittsburg.	14.00	Passed.
9826	5221		"	13.60	"
9827	5222	Jas. Pappas.	"	13.60	"
9828	5223		"	9.60	"
9829	5224	Jas. Pappadakes.	"	11.20	"
9830	5225		"	11.30	"
9831	5226	Biles Bros.	"	9.40	"
9832	5227		"	14.14	"
9833	5228	Marsh & Hatton Creamery Co.	"	18.40	"
9841	5231	Gus Vasilas.	Coffeyville.	5.20	Illegal.
9842	5232	"A" Sanitary Ice Cream and Milk Co.	"	11.80	"
9843	5233	Ice Cream Depot.	"	7.00	"
9846	5235	T. F. McNulty.	"	15.20	"
9847	5271	Pappadakes Bros.	Pittsburg.	14.20	Passed.
9848	5272	Pappas Bros.	"	8.40	Illegal.
9849	5273	T. P. Griggs.	"	8.60	"
9850	5274		"	3.70	"
9851	5275	Crawford Creamery Co.	"	14.40	Passed.
9852	5276		"	15.20	"
9853	5277	Biles Bros.	"	10.80	Illegal.
80239	5283	Monios Bros.	Wichita.	11.20	"
80240	5284	Dunn Baking Co.	"	14.30	Passed.
80241	5285	John Blotel.	"	3.60	Illegal.
80242	5286	Busy Bee Cafe.	"	14.00	Passed.
80243	5287	Ed Cero.	"	12.80	Illegal.
70133	10364	Clay Center Creamery Co.	Clay Center.	13.90	"
70134	10364		"	15.10	Passed.
70135	10366	W. L. Glidden (Clay Center Candy Co.)	"	11.40	"
9924	10408	E. D. Smith.	Minneola.	4.40	"
9927	10406	Eaton Hotel.	Wichita.	3.80	"
9928	10407		"	3.80	"
9946	10414	E. D. Miller.	Coffeyville.	6.40	"
9946	10415	E. Nichols.	"	15.20	Passed.
9947	10416	J. S. Long & Son.	"	7.20	Illegal.
9948	10417	Cottage Candy Kitchen.	"	12.00	"
9949	10418	Gus Vasilas.	"	11.60	"
9950	10434	Ed Cero.	Wichita.	11.00	"
9951	10435	A. Kritikos.	"	8.40	"
9952	10436	Monios Bros.	"	11.60	"
9952	10437		"	11.20	"
9953	10438	A. Kritikos.	"	11.30	"
9954	10439	Ed Cero.	"	11.60	"
9956	10440	Kansas Club.	"	11.30	"
70158	10459	Clay County Creamery Co.	Clay Center.	20.00	Passed.
70160	10460	W. L. Glidden (Clay Center Candy Co.)	"	13.80	"
70163	10461	John Grier Hotel Co.	McFarland.	10.40	Illegal.
70164	10475	F. Bachmann.	Fort Scott.	17.20	Passed.
70165	10476		"	12.30	Illegal.†
70166	10477	Oscar Herald.	"	12.40	Passed.†
70167	10478		"	12.40	Illegal.
90007	10520	The Steffens-Bretch Ice and Ice Cream Co.	Wichita.	11.20	"
90008	10521	J. H. Gray.	"	14.00	Passed.
90009	10522	The Steffens-Bretch Ice and Ice Cream Co.	"	12.50	Illegal.
90010	10523	The Snyder Ice Cream Co.	"	13.20	"
90011	10524		"	10.30	"
90012	10525	Shelly Drug Co.	"	16.00	Passed.
90013	10526	The Snyder Ice Cream Co.	"	8.00	Illegal.
90014	10527	J. E. Allen.	"	17.30	Passed.
90015	10528	F. L. Buchanan.	"	16.00	"
90016	10529	Steffens-Bretch Ice Cream Co.	"	11.80	Illegal.
90017	10530		"	10.70	"
6728	10543	W. H. Woods.	Council Grove.	18.10	Passed.
90122	10788	Throop Hotel (Topeka Pure Milk Co.)	Topeka.	12.00	Illegal.
90165	10841	Geo. W. Flad (Topeka Pure Milk Co.)	"	10.50	"
99166	10842	Brunt Drug Co. (Topeka Pure Milk Co.)	"	10.90	"
90174	10843	Topeka Pure Milk Co.	"	10.90	"
90175	10844	Throop Hotel (Topeka Pure Milk Co.)	"	10.60	"

* Sample had leaked in shipment.

† Strawberry ice cream.

GRAHAM AND WHOLE WHEAT FLOUR.

No.	Serial No.	MANUFACTURER.	City.	Brand.	Class.
5590	5574	Clasen Roller Mills	Newton.		Passed.
5591	5575	Newton Mill and Elevator Co.	Newton.		Not passed.
5728	5576	Coffeyville Mercantile Co.	Coffeyville.	Shamrock.	Passed.
5729	5577	Hampton Bros.	Lafayette.	Graham Flour.	Not passed.
5877	5580	Tyler & Co.	Junction City.	Richleu.	Passed.
5883	5581	Sprague Warner.	Chicago.	Peerless.	Not passed.
5884	5582	Hogan Milling Co.	Junction City.		Passed.
X	5593	Manhattan Milling Co.	Manhattan.		
70039	5105	T. J. Pace	Sabetha.		
70040	5106	Perry Hutchinson	Marshall.	Excelsior Mills.	Not passed (screenings).*
70041	5107	Steinauer Milling Co.	Steinauer, Neb.	Golden Gem.	Passed.*
70042	5108	Bernard Bros. Mills	Holton.	Extra Choice, Fresh Ground.	Not passed (screenings).*
70043	5109	H. Eichenlaub	Seneca.	Choice Fresh Ground.	Passed.
5594	5123	Kansas Milling Co.	Wichita.	XLNT.	
5595	5124	Topeka Milling Co.	Topeka.	Ralston Health.	
5596	5124				
5765	5125	Hunter Milling Co.	Wellington.		Not passed.
5766	5126			Graham Flour.	
5776	5128	J. G. Conrad & Son.	Rest.	Hunter's Whole Wheat Flour.	Passed.
6708	5163	Shawnee Milling Co.	Topeka.		
70119	10801	Hays City Milling Co.	Hays.		
70121	10802	Snell Mill and Grain Co.	Clay Center.	Roller Mills.	
70122	10803	C. E. Larson	Agenda.		
70120	10804	Clyde Milling and Elevator Co.	Clyde.	Choice.	Not passed.
70123	10807	Williamson Milling Co.	Clay Center.	Choice Fresh Ground.	Passed.
70124	10808	Albert Miller.	Brantford.	Fresh Ground.	Not passed.
6716	10808	Concordia Milling Co.	Concordia.		
6717	10809	Forbes Bros.	Topeka.		
6718	10810	Kaw Milling Co.		Perfection.	Passed.
70141	10611	J. B. Billard.	Frankfort.	Superior.	
70142	10612	Frankfort Feed Mills.	Beloit.	Red Robin.	
70143	10613	Beloit Milling Co.	Okeo.	Whole Wheat.	
70147	10614	Perry Hutchinson	Marysville.	Choice.	
70153	10115	Williamson Milling Co.	Concordia.	Excelsior Mills.	Not passed: imitation.
70155	10516	Concordia Milling Co.	Concordia.	Choice Mixed.	Passed.
70157	10517	Snell Mill and Grain Co.	Clay Center.		
6726	10587	Smoky Valley Roller Milling Co.	Lindborg.		
6729	10588	Hogan Milling Co.	Junction City.		
6730	10589	Forest Milling Co.	Ottawa.		Not passed.
90069	10601	J. B. Billard	Topeka.	Superior Graham.	Passed.
90080	10602	Shawnee Milling Co.	North Topeka.	Graham Flour.	
90061	10602	Forbes Bros.	Kansas City, Mo.	Kansas Valley Graham Flour.	
90062	10603	Kimball-Sawyer Milling Co.		Fresh Ground Graham Flour.	

* Not enough for complete investigation. † Whole wheat flour.

GRAHAM FLOUR.

A considerable number of samples of graham flour have been submitted by the inspectors within the last year, and have been examined by means of sifting so as to determine the relative amounts of bran, the different sizes of middlings, and the flour in them. This investigation has shown that much of the article sold as graham flour is not properly so designated, and that the imitation graham flour can be detected with a good degree of certainty by the method which we have proposed and used. Samples as shown in the accompanying table have been examined, and the results of some of the separations by sifting are given in an article on "The Inspection and Analysis of Graham Flour," prepared by Mr. Utt and printed elsewhere in this BULLETIN.

The Inspection and Analysis of Graham Flour.*

By C. A. A. UTT, Assistant Food Analyst.

The first flour made from wheat was graham flour. The wheat, ground in a crude mill, made meal that was used for bread. As civilization advanced, bolting was introduced and there was a demand for whiter bread; hence, the old unbolted wheat meal was largely forgotten.

It remained for Sylvester Graham, early in the nineteenth century, to revive the manufacture of unbolted wheat meal, and advocate its use for bread. That his efforts and teachings bore fruit can be seen in the fact that this product bears his name. Graham flour, according to him and modern pure food laws, is "unbolted wheat meal." It is simply the wheat ground into meal without anything added or taken away. It contains all the elements of the whole wheat, and has not been subjected to any bolting or regrinding in the process of manufacture.

Because graham flour was first made by grinding on stone buhrs, many think that the best graham flour is still made in this way. Modern methods have introduced the iron buhr and the roller mill. Wheat may be ground into meal by buhrs or rolls and so long as it is unbolted it is graham flour.

Millers found in grinding wheat for patent flour, certain end products, such as bran, shorts, and low-grade flour, that could be combined to resemble the original graham flour. Thus, for a time,

* The author is deeply indebted to Prof. C. O. Swanson, Prof. J. T. Willard and Prof. L. A. Fitz for suggestions in carrying out this work, and hereby expresses his thanks and appreciation for their assistance.

and the practice continues in many mills, graham flour was not unbolted meal but a mixture of many things, some of which are usually sold for cattle feeds. There was more money in disposing of these products in the graham flour than in selling them for stock feed. A portion of the best part of the wheat kernel, the middlings, was by this method removed and made into patent flour. Other mills ground the wheat, bolted the meal, and endeavored to mix it afterwards. In this way all the elements of the original wheat were represented in the final product, but this was not unbolted wheat meal.

In determining the origin of graham flour a chemical analysis alone is of little value. It may reveal the fact that all the elements of the original wheat are present, but it will not show whether or not the meal has been subjected to bolting. Pure unbolted wheat meal consists of bran, middlings, and white flour. The amount and character of these products depends upon the methods of grinding and the kind of wheat used. Grinding on stone buhrs, iron buhrs, or rolls, will give somewhat different end products, both in quality and quantity. Hard wheat and soft wheat also give different products. Many millers grind soft wheat for graham flour because they think it makes the best flour.

At the Kansas State Agricultural College we have found that the best way to determine the origin of graham flour is to separate it into the bran, middlings and white flour by means of bolting, and examine the various resulting products. For this purpose a shaking frame is used containing five sieves made from miller's silk bolting cloth. These sieves, counting from top to bottom, are numbers 30, 44, 50, 70, 10; that is, the bolting cloth used on these sieves is known to the millers by these numbers.

A kilogram of the graham flour is placed in the top sieve and subjected to shaking. The bran collects on 30, the very coarse middlings on 44, the coarse middlings on 50, the fine middlings on 70, and the very fine middlings on 10. What goes through 10 is classed as white flour. When the separations have been made, the amounts are determined by weighing and their character by examination.

The bran, if the wheat is ground on a buhr, is usually large and flaky. If ground on rolls, it very often presents a granular, chopped-up appearance. Soft wheat usually produces a large, flaky bran; this, however, depends somewhat upon the method of handling the wheat. Bran from either hard or soft wheat contains considerable white flour. This clings so tenaciously to it that a

clean separation is impossible. A meal made from hard wheat, bolted, reground and remixed gives a bran uniformly brown in color, and with very little white flour clinging to it. The middlings vary from very coarse to very fine. The very coarse middlings contain some of the outer part of the wheat; consequently they are somewhat brown in color and quite granular. The finer middlings are white in color and present much of the appearance of the well-known "Cream of Wheat." Hard and soft wheat middlings have practically the same appearance.

The analyst will find shorts instead of middlings if the graham flour has been made by bolting and mixing. This shorts varies in grade from coarse brown shorts to fine white shorts, which can be distinguished by its rather fluffy, smooth appearance and lack of granulation. The flour obtained is a fair grade of white flour. It contains some of the small, dark particles of the wheat that come through in bolting, but it does not have the uniform gray, fluffy appearance of low-grade flour.

A clean bran, fluffy, shorts-like middle products, and a gray, fluffy flour, indicates that the meal has been made up of bran, shorts and low-grade flour. Sharp, flaky bran, granular middlings with a good proportion of clean flour, indicates that the meal is unbolted.

The annexed table shows the results obtained on samples taken by the food inspectors in Kansas and worked through on the lines indicated. It represents the percentages of the different products obtained on the various sieves; also in nearly every case the method of grinding and kind of wheat is shown.

SUMMARY.

Unbolted wheat meal made on rolls yields the following products: Bran, 7.0 per cent to 33.5 per cent; average, 17.0 per cent. Middlings, 40.0 per cent to 63.0 per cent; average, 52.0 per cent. White flour, 14.0 per cent to 44.0 per cent; average, 29.0 per cent.

If the wheat is ground on buhrs the yield is somewhat as follows: Bran, 1.0 per cent to 13.5 per cent; average, 4.5 per cent. Middlings, 38.0 per cent to 52.0 per cent; average, 45.0 per cent. White flour, 45.0 per cent to 59.5 per cent; average, 49.0 per cent.

Comparing the two methods of grinding, the proportion of white flour is larger in the graham flour ground on buhrs; the middlings are a trifle less, and also the bran. The greatest differences are seen in the bran and white flour.

CONCLUSIONS.

1. The origin and purity of graham flour can be determined with certainty by separating it into the bran, middlings and white flour of which it is composed.

2. These separations, though varying somewhat in quantity, are quite uniform in quality.

GRAHAM FLOUR.

Insp. No.	Serial No.	Kind of wheat, method of mfg.	On sieve.					Total mid-dl'gs.	White flour.	Remarks.
			Bran.	Middlings.						
				30	44	50	70	10		
5590	5047	*R-H	23.4	23.0	5.6	13.5	10.0	52.1	14.5	Bran, middling-, flour, coarse ground.
5591	5075	R-H	10.0	10.0	4.0	16.0	23.0	53.0	37.0	Bran clean, bran, shorts and second clear flour.
9728	5077	*B-S	2.0	7.5	3.5	10.5	17.0	38.5	59.5	Bran, middlings, flour.
9729	5079	R-H	13.0	13.0	7.5	22.5	18.0	61.0	26.0	Bran, middlings, flour.
6677	5080	R-H	10.5	7.5	4.5	22.5	25.0	59.5	30.0	Bran, middlings, flour.
6683	5081	R-S	16.5	6.5	3.5	13.0	16.0	39.0	41.5	Bran, middlings, flour.
6684	5082	R-H	19.0	2.5	1.0	1.0	3.5	8.0	73.0	Bran, shorts, low-grade flour.
X	5093	R-H	14.0	16.0	9.0	24.0	17.0	66.0	20.0	Bran, middlings, flour.
5595	5123	R-H	10.0	5.0	4.0	26.0	23.0	58.0	32.0	Bran, middlings, flour.
5594	5122	B-H	5.0	20.0	8.0	13.0	8.0	49.4	46.0	Bran, middlings, flour.
5596	5124	R-H	0.2	0.5	2.3	2.9	32.5	38.4	61.6	Bran, removed, bolted, reground.
9765	5125	R-H	16.0	4.0	1.0	2.0	2.0	9.0	75.0	Bran, shorts, flour.
9766	5126	R-H	1.0	1.5	1.0	2.0	1.5	6.0	93.0	Bran, shorts, flour.
9776	5162	B-	14.7	12.5	5.0	12.3	17.5	47.3	38.0	Bran, middlings, flour.
.....	5168	B-S	11.5	6.2	2.8	13.0	20.0	42.0	46.5	Bran, middlings, flour.
6708	10801	R-H	16.0	18.5	11.0	20.0	10.0	59.5	25.5	Bran, middlings, flour.
70119	10802	R-H	15.0	16.0	10.0	21.5	15.0	62.5	22.5	Bran, middlings, flour.
70120	10806	R-H	17.5	21.5	11.0	17.0	9.0	58.5	24.0	Bran, middlings, flour.
70121	10808	R-H	20.0	17.0	9.0	18.5	14.0	58.5	21.5	Bran, middlings, flour.
70122	10804	R-H	10.0	10.0	3.5	5.0	4.0	22.5	67.5	Bran, shorts, flour.
70123	10807	R-H	24.0	17.0	5.0	11.5	14.0	48.5	23.5	Bran, middlings, flour.
70124	10808	R-H	12.5	0.0	0.0	0.0	0.0	0.0	87.5	Bran and flour.
6716	10508	.....	10.0	10.0	5.0	12.5	18.0	45.5	44.5	Bran, middlings, flour.
6717	10509	.....	10.0	12.5	8.0	23.5	21.0	64.0	26.0	Bran, middlings, flour.
6718	10510	.....	13.5	6.0	1.5	6.0	26.0	39.5	47.0	Bran, middlings, flour.
70141	10611	.....	6.0	22.5	14.0	24.5	15.0	76.0	18.0	Bran, middlings, flour.
70142	10612	.....	14.0	10.0	5.0	12.5	27.5	55.0	31.0	Bran, middlings, flour.
70143	10613	.....	12.5	17.0	5.5	7.0	3.0	32.5	55.0	Bran, middlings, flour.
70147	10614	.....	6.5	17.0	8.0	12.5	10.0	47.5	47.0	Bran, middlings, flour.
70153	10615	.....	13.0	0.0	0.0	0.0	0.0	10.0	87.0	Bran and flour.
70156	10616	.....	13.0	16.0	10.0	12.0	24.0	62.0	24.0	Bran, middlings, flour.
70157	10617	.....	7.5	12.5	9.0	27.0	19.0	67.5	25.0	Bran, middlings, flour.
6726	10597	R-H	7.0	10.0	4.0	17.0	27.0	58.0	35.0	Bran, middlings, flour.
6729	10598	R-H	13.0	8.0	1.0	3.0	5.0	17.0	70.0	Bran, shorts, flour.
6730	10599	B-S	1.0	14.0	6.0	18.0	14.0	52.0	47.0	Bran, middlings, flour.
90069	10600	R-H	10.0	8.0	3.0	24.0	23.0	63.0	27.0	Bran, middlings, flour.
90060	10601	B-H	13.0	6.0	8.0	12.0	21.0	42.0	45.0	Bran, middlings, flour.
90061	10602	R-H	17.0	13.0	5.0	12.0	16.0	46.0	37.0	Bran, middlings, flour.
90062	10603	R-S	32.0	17.0	6.0	10.0	7.0	40.0	28.0	Bran, middlings, flour.

*R-H=Roller mill, hard wheat.

*B-S=Buhr mill, soft wheat.

DRUG ANALYSIS XLV.

L. E. SAYRE, Director; L. D. HAVENHILL, Chief; G. N. WATSON, Analyst;
C. M. STERLING, Microscopist.

The following report on drug analyses, it will be seen, covers the usual variety of drugs and preparations. Attention is to be called to the more elaborate report on linseed oil. These products are coming into the laboratory more frequently every month, and it is to be hoped that the service which is rendered will be in proportion to the tax upon the time of the analyst and the laboratory.

The "beauty specialties" (2036-2039) are interesting if not instructive, being harmless cosmetics.

It should be said with regard to the Japanese Rapid Headache Powders, No. 5923, these were very old stock.

No. 5892, Dis-O-Aqua-Eara, is rather a simple preparation, and certainly has this merit at least as a remedy.

No. 5879, Elixir of Lactated Pepsin, shows one of exceptional power so far as digestive strength is concerned.

No. 5939. In connection with this report the druggist should be cautioned not to sell Glauber's Salts for Epsom Salts, neither should Sodium Carbonate be dispensed for Glauber's Salts, as in the case of No. 5890.

Bad-Em-Salz. In regard to such preparations it should be stated that pharmacists should be careful in making statements with regard to properties of alkaline or other salts as solvents for urinary secretions. In the light of the present knowledge of gall stones and gravel solvents, it would seem to be a great mistake for one to assume that such a solvent can be obtained by evaporating the waters of any known spring, however remote from home. Certainly the constituents of this preparation, when submitted to a therapist of any repute, would be condemned as an agent for the purpose recommended.

We again should caution pharmacists against the addition of water to spirits of camphor, and they should also be cautioned with regard to the manner in which they are keeping sweet spirits of nitre, knowing, as they should, that it readily deteriorates. It will be noted that one of the samples was taken from a one-gallon colorless container. This is, on the face of it, a violation of the best pharmaceutical practice.

SPIRIT OF CAMPHOR.*

Lab. No.	Insp. No.	NAME.	City.	Per cent camphor.	Per cent added water.
5856	20877	Red Cross Pharmacy.....	Hiawatha.....	9.4	Trace.
5857	20878	Geo. McClaren.....	Troy.....	11.3	
5867	20888	Doctor Jewett Drug Store.....	Eakridge.....	9.7	
5876	20896	City Drug Store.....	Irving.....	9.8	
5898	20410	De Soto Drug Store.....	De Soto.....	8.9	
5896	20412	The Row Drug Company.....	Baldwin.....	8.06	
5906	20423	Stewart Drug Company.....	Formoso.....	8.3	
5908	20426	Chataille Hamilton Drug Company.....	Smith Center.....	12.6	
5910	20428	Dr. H. D. Brothers.....	Agra.....	9.9	
5912	20430	Holmes Hardware and Drug Company.....	Phillip burg.....	8.3	
5964	20463	F. J. Pietrzyk.....	Kansas City.....	1.86	5.8
5966	20476	Jos. Paradowsky.....		9.00	

* Spirit of Camphor should contain 10 gms. of camphor in 100 cc. and no added water.

OIL OF TURPENTINE.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Per cent distilled between 155° and 162°.	U. S. P. test, residue from 5 cc.
†5755	20249	C. M. Douglas.....	Pierceville.....	0.868		0.45
5771	20266	Gam Drug Store.....	Ellinwood.....	0.861	53.2	0.40

* Oil of Turpentine should have specific gravity 0.860-0.870. The larger part should distill between 155° and 162° C.

† Leaves excess residue upon evaporation.

TINCTURE OF IODINE.*

Lab. No.	Insp. No.	NAME.	City.	Gms. iodine in 100 cc.	Gms. potassium iodide in 100 cc.
5904	20422	I. G. Woolsey.....	Munden.....	7.17	Absent.
5922	20441	Mrs. Aug. Kuhlmann.....	Hanover.....	6.48	8.9

* Tincture of Iodine should show by assay at least 6.86 gms. iodine and 5 gms. of potassium iodide in 100 cc.

TINCTURE OF GINGER.*

Lab. No.	Insp. No.	NAME.	City.	Per cent alcohol.	Remarks.
5890	20404	City Drug Store.....	Lawrence.....	46.66	Andrews brand; alcohol declared. 50 per cent.
5916	20434	Selden Pharmacy.....	Selden.....	91.40	Passed.

* Tincture of Ginger should contain about 91 per cent alcohol.

CREAM OF TARTAR.*

Lab. No.	Insp. No.	NAME.	City.	Per cent $\text{KHC}_4\text{H}_4\text{O}_6$.	Test for heavy metals.
5861	20882	Sherwood Drug Company.....	Sabetha.....	99.7	Negative.
5871	20892			99.6	
5917	20435	A. L. Schramling.....	Brewster.....	99.3	

* Cream of Tartar should contain not less than 99 per cent pure potassium bitartrate and should otherwise conform to U. S. P. requirements.

SPIRIT OF NITROUS ETHER.*

Lab. No.	Insp. No.	NAME.	City.	Per cent ethyl nitrite.	Remarks.
5897	20414	Reed & Sanford.....	Belleville.....	2.07	Original container. Sample taken from 1 gallon colorless bottle.
5898	20415	Clyde Drug Co.....	Clyde.....	0.24	

* Spirit of Nitrous Ether should contain at least 4 per cent ethyl nitrite.

BAY RUM.*

Lab. No.	Insp. No.	NAME.	City.	Per cent alcohol.	Oil content.	Remarks.
5816	20315	Woolworth & Co.....	Topeka.....	11.6	Deficient.	12.5 per cent alcohol declared. Savoi brand.
5820	20318	C. A. Kessler.....	Topeka.....	24.3	"	25 per cent alcohol declared. Carnella brand.
5858	20379	Geo. McClaren.....	Troy.....	25.7	"	"
5859	20386	E. A. Sinclair.....	".....	46.7	"	"
5866	20387	".....	".....	24.5	"	25 per cent alcohol declared.
5869	20390	Chas. F. Payne.....	Maplehill.....	53.0	"	Superior brand.

* Bay Rum should contain 56.0 to 58.0 per cent alcohol. Should contain no sediment, and should compare with standard preparation in amount of oil.

WITCH HAZEL.*

Lab. No.	Insp. No.	NAME.	City.	Per cent alcohol.	Manufacturer.
5747	90280	".....	".....	14.4	Larkin Company.
5832	20383	Steele & Johnson.....	Sabetha.....	13.3	Goodrich Drug Co., Omaha.
5886	20406	U P. Pharmacy.....	Topeka.....	13.4	Arnold Drug Co., Topeka.

* Extract of Witch Hazel should contain about 14.2 per cent absolute alcohol.

Lab. No. 5763. Insp. No. 20257. "Elixir of Iron, Quinine and Strychnine Phosphates." H. R. Hurd, Chase. Specific gravity, 1.092; total solids, 31.54 gms. in 100 cc.; total alkaloids, 9.52 gms. in 100 cc. Sample contained 24.3 per cent alcohol.

Lab. No. 5830. Insp. No. 20360. "Po. Buchu." A. T. Stewart Pharmacy, Denton. Ash, 5.22 per cent. Microscopical examination indicates presence of woody parts of the plant. The ash, however, was about standard. Passed.

Lab. No. 5846. Insp. No. 20376. "Fowler's Solution." Rankin's Drug Store. 96.7 per cent of standard. Passed.

Lab. No. 5874. Insp. No. 90080. "Folger's Golden Gate Pepper." E. A. Finch, Wellington. Net weight, 58.4 gms.; ash, 4.54 per cent. Microscopical examination does not show presence of foreign substances.

Lab. No. 5860. Insp. No. 20381. "Po. Asafœtida." S. H. Blakely, Severance. Ash, 7.1 per cent; alcohol insoluble, 58.4 per

cent. Not more than 50 per cent of asafoetida should be insoluble in alcohol.

Lab. No. 5878. Insp. No. 20402. "Essence of Peppermint." Woodward & Co., Lawrence. Contained 10.6 cc. oil in 100 cc. of the essence. Passed.

Lab. No. 5888. Insp. No. 20407. "Tr. of Opium." Arnold Drug Company, Topeka. Contained 1.27 gm. morphine in 100 cc. Passed.

Lab. No. 5599. Insp. No. 20168. "Pepsin Fluid." Fountain Drug Store, Lincoln. U. S. P. assay showed 2.2 cc. undigested albumin. Acidity, 0.2 per cent; calculated as hydrochloric acid.

Lab. No. 5742. Insp. No. 80278. "Nurito," a prescription for rheumatism, sciatica and neuritis. The Magistral Chemical Company, New York. Contained phenolphthalein, pyramidon and milk sugar.

Lab. No. 5865. Insp. No. 20386. "Eptol." Cooper Pharmacal Co., Chicago. Fatty acids, 61.2 per cent; melting point of fatty acids, 57 C. Ash is composed of borax and sodium carbonate. Preparation has composition of the residue from greaseless creams after evaporation of the water.

Lab. No. 5870. Insp. No. 20391. "Zintone." Cooper Pharmacal Co., Chicago. Composed of perfumed, powdered sodium stearate.

Lab. No. 5872. Insp. No. 20393. "Prosene Compound." Cooper Pharmacal Co., Chicago. Declared to be a valuable compound of high digestive power. Recommended for dyspepsia, indigestion, and as a general stomach tonic. Contained berberine and hydrastine in small amounts, indicating presence of preparation of hydrastis. It shows a digestive power equivalent to 1 gm. U. S. P. pepsin per 100 cc. of the compound.

Lab. No. 5874. Insp. No. 20395. "Pyroligneous Acid." D. von Riesen, Marysville. Evans-Smith, Kansas City, Mo., jobber. Contained 4.79 per cent acetic acid. Methyl alcohol was present.

Lab. No. 5876. Insp. No. 20398. "Rosser's Liquid Smoke." A. C. Rosser & Co., Osage City. Contained 5.11 per cent acetic acid. Methyl alcohol was present. Evidently consists entirely of pyroligneous acid.

Lab. No. 5877, Insp. No. 20400. "Neroxin Powder." Cooper Pharmacal Co., Chicago. Contained about 38.3 per cent borax, the remainder being mainly sodium stearate with excess of fatty acid. Preparation had benzoin-like odor, but benzoic acid was not detected.

Lab. No 5879, Insp. No. 20403. "Elixir of Lactated Pepsin." Dick Bros., Lawrence. Official assay for pepsin, using compound digestive elixir as standard, showed practically no residue. Manufactured by Armour. The high digestive power of this preparation is an exception to the numerous brands examined in this laboratory.

Lab. No. 5881, Insp. No. 5080. "Paint Powder." To be used with cold water. Found to be a casein paint. Contained calcium carbonate, casein, aluminum and magnesium silicates. Contained over 48 per cent calcium carbonate and about 18 per cent casein.

Lab. No. 5883, Insp. No. —. Well water, to be examined for poison. No poison detected.

Lab. No. 5887, Insp. No. 20406. "Krauser's Smoke." A. W. Lacey, Topeka. Contained 5.69 per cent acetic acid. Methyl alcohol present.

Lab. No. 5890, Insp. No. 33D. "White Powder." Sent to laboratory by J. R. Douglas, Mayetta. Purchased for Glauber's salt. Sample contained 99.7 per cent of sodium carbonate.

Lab. No. 5892, Insp. No. 28D. "Dis-O-Aqua-Eara." Dr. L. C. Grains Co., Chicago, Ill. Total solids in 100 cc., 30.28 gms.; per cent potassium iodide in total solids, 99.57. Sample is a 30 per cent aqueous solution of potassium iodide with small amount coloring matter. Preparation is recommended and freely advertised by the manufacturer as a remedy for deafness.

Lab. No. 5896, Insp. No. 20413. "Confects" Hitchcock & Carnahan, Baldwin. Manufactured by the Autotoxine Co., Ottawa, Kan. Confects contained calomel, sugar and some coloring matter. Averaged 0.050 gm. calomel per confect.

Lab. No. 5913, Insp. No. 20431. "Sulfo Solution." Manufactured by Cooper Pharmacal Co., Chicago. Recommended for removal of superfluous hair. A perfumed solution of sodium sulfohydrate. Contained about 6.35 per cent of the salt. Retailled at \$1 per ounce.

Lab. No. 5914, Insp. No. 20432. "Fowler's Solution Tablets." Manufactured by Mulford & Co. Each tablet declared to contain sufficient arsenic to make one fluid ounce of Fowler's Solution. Found to be as claimed by manufacturers.

Lab. No. 5919, Insp. No. 20438. "Silver Top." W. L. Howe, Almena. No alcohol detected. No fungous growth detected.

Lab. No. 5923, Insp. No. 20442. "Japanese Rapid Headache Powders." Mrs. Aug. Kuhlmann, Hanover. Contain acetanilid,

caffeine and sodium bicarbonate. Acetanilid not declared. Misbranded.

Lab. No. 5924, Insp. No. 20443. " $\frac{1}{4}$ gr. Strychnine Sulphate Dispensing Tablets." Dingman Drug Store, Hanover. Tablets contained 0.0165 gm. hydrous strychnine sulphate. Passed.

Lab. No. 5926, Insp. No. 20445. "5-grain Bismuth Subnitrate Tablets." Rommel Drug Co., Waterville. Found to contain 4.77 gr. bismuth subnitrate per tablet.

Lab. No. 5939, Insp. No. ——. "White Powder." Sent to laboratory by John W. Davis, Dunlap, Kan. Sample was purchased for Epsom salts. Found to be sodium sulphate or Glauber's salt.

Lab. No. 5946, Insp. No. ——. "Barosmin Tablets." Sent to laboratory by O. L. Garlinghouse. Tablets contained nearly 0.20 gr. of alcohol soluble substance, which was practically the resinoid content.

Lab. No. 5955, Insp. No. 20464. "Sweet Rest for Children." F. J. Pietrzyk, Kansas City. Declared to contain 2 gr. of opium per ounce. Total alkaloids found in preparation, 0.0087 gm. per ounce. Two grains of U. S. P. opium should contain 0.012 gm. of morphine alone. Sample does not contain 2 gr. of U. S. P. opium per ounce. Misbranded.

Lab. No. 5979, Insp. No. 80299, "Bad-Em-Salz." Declared on wrapper "This powder represents the medicinal agents obtained by evaporating the water from the famous European springs. The experience of a thousand years, confirmed and approved by every important modern medicinal authority, demonstrates it to afford an incomparable cure for diseases of stomach, intestines, liver, kidneys and bladder, cleansing the digestive tract, promoting the flow of bile, neutralizing uric acid, dissolving gall stones and gravel in the kidneys or bladder, and freeing the blood from poisonous impurities." In a pamphlet which was wrapped about the container directions are given for use of Bad-Em-Salz in diseases of the stomach, intestines, liver, gall-bladder, kidney, bladder diseases peculiar to women, skin diseases, gout, rheumatism, uric acid, obesity and diabetes. The preparation is manufactured by the American Laboratories, Philadelphia, Penn. Preparation was found to have the following composition: Sodium chloride, 12.95 per cent; sodium sulphate, 40.24 per cent; tartaric acid, 2.32 per cent; sodium bicarbonate, 34.1 per cent; sodium tartrate, 7.74 per cent; water by difference, 2.65 per cent.

Lab. No. 5980. "Wright's Condensed Smoke." Contained 5.5 per cent acetic acid. Methyl alcohol was present.

LINSEED OIL.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity	Sapon. value.	Time required for drying.	Ref. index.	Iodine value.	Flash test.	Jobber or manufacturer.	Remarks.
5900	20417	E. Bechard.....	Clyde.....	0.9068	168.08	Dries unsatisfactory.	1.4770	184.20	65° C	M. A. Hulbert & Co., Omaha....	Adulterated with mineral oil.
5920	20439	A. Bennie Hardware Co....	Almena.....	.9040	167.50	"	1.4760	122.70	60°	Paxon & Gallagher Groc. and Hdw. Co., Omaha....	Adulterated with mineral oil.
5928	20447	M. Thinner Hardware Co....	Greenleaf....	.9280	180.90	72 hours	1.4820	173.80	235°	Pibbey Plate Glass Co., St. Jos., Mo.	.....
5980	20449	Acme White Lead and Color Works.....	Topeka.....	.9800	195.14	"	1.4832	184.20	236°	Am. Linseed Co..	Passed.
5938	20452	Acme White Lead and Color Works.....	"	.9800	195.14	"	1.4832	184.00	236°	"	"
5984	20453	Kitchell-Marburg Hardware Co.....	"	.9800	192.50	"	1.4880	179.18	290°	Am. Linseed Co..	"
5987	20456	C. M. Hill & Son.....	"	.9299	194.80	"	1.4825	181.10	297°	Gt. Eastern Oil and Paint Co., Cleveland, Ohio....	Adulterated with mineral oil.
6008	20509	Meagher & Bro.....	Solomon.....	.9006	99.60	Does not dry	.....	.....	50°	Am. Linseed Co..	Cont's small amt. of water and turpentine; contains considerable foots; composed largely of lin-oxyd.
5950	22D	.....	.....	.9890	181.15	Dries slowly, forming rough, blistered coat.	.....	.....	100°	Am. Linseed Co..	.....
5999		Hodges Bros.....	Olathe.....	.9320	194.00	72 hours	.....	.....	.....	.....	.....

* Linseed oil should conform to standard published in BULLETIN No. 5, 1912.

BOILED LINSEED OIL.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity value.	Drying test.	Ref. index.	Iodine value.	Flash test.	Liebermann-Storch reaction.	Acid value.	Manufacturer or jobber.	Remarks.
5901	20418	E. Bechard	Clyde....	0.859	108.11	1.4755	94.40	90° C	+	2.77	M. A. Hulbert & Co., Omaha.....	Adulterated with mineral oil.
5902	20419	" .....	" .....	.852	66.19	1.4650	52.40	40° C	+	.....	M. A. Hulbert & Co., Omaha.....	Labeled Linseed. Principally rosin oil and mineral oil.
5929	20448	Whelan Lumber Co. .	Topeka....	.931	191.10	1.4940	182.13	.....	-	3.24	Acme White Lead and Color W'ks, Topeka.	Passed.
5931	20450	Acme White Lead and Color Works.....	" .....	.935	191.10	1.4850	179.10	.....	+	5.54	Amer. Linseed Co.....	"
5932	20451	Acme White Lead and Color Works.....	" .....	.935	191.18	1.4850	179.00	.....	+	5.60	"	"
5935	20454	J. K. Jones Paint Co. .	" .....	.932	196.09	1.4832	176.64	.....	-	4.98	"	"
5936	20455	C. M. Hill & Son.....	" .....	.931	189.10	1.4835	170.00	.....	Slight.	4.73	Amer. Linseed Co.....	"
5938	20457	H. C. Lang.....	" .....	.934	191.18	1.4946	184.20	230° C	+	6.33	M. A. Hulbert & Co.....	Adulterated with mineral oil.
5948	.....	E. S. Stein.....	Garnett....	.879	90.58	.....	.....	40° C	.....	.....	.....	Passed.
5992	.....	.....	.....	.934	191.60	.....	.....	.....	+	.....	.....	.....

* Boiled linseed oil should conform to standard published in BULLETIN No. 5, 1912.

Lab. No. 5990, Insp. No. ——. "Hypodermatic Tablets." Declared to contain morphine sulphate 0.25 gr., atropine sulphate 0.666 gr. Tablets contained 0.29 gr. morphine sulphate.

Lab. No. 5994, Insp. No. ——. "Tablets." Said to have poisoned horse. Tablets were found to contain barium chloride and zinc phenolsulphonate.

Lab. No. 5995, Insp. No. ——. "White Powder." Sent to laboratory to be examined for presence of poison. Sample was found to contain 98.99 per cent potassium bitartrate. No other substance detected.

Lab. No. 5996, Insp. No. 70221. Nuts, imported from Philippines. Purchased from Guernsey & Murray, Kansas City. Found to be the *Canarium Indicum*, commonly called Canarium nut, Japanese almond, or Philippine nut.

A Dangerous Practice in the Feeding of Infants.

From New Hampshire Bulletin.

It has come to the knowledge of the State Board of Health that the so-called vacuum bottles, designed to maintain liquids at a desired temperature, either hot or cold, for several hours, are being used to keep the baby's milk *warm* for feeding through the night or on a journey, or for other convenient periods.

The result of keeping *warm* milk in such bottles for several hours is the development of bacteria in immense numbers, consequently rendering the milk dangerous for infants.

There is no medium better suited for the rapid growth of bacteria than warm milk, and for this reason many municipalities have established regulations requiring milk to be cooled immediately after being drawn from the cow, and to be delivered to the customer at a temperature not exceeding 50° or 55° F.

A low temperature is necessary to inhibit the growth of germ life, to prevent early souring, decomposition and other detrimental changes. It will, therefore, be seen that the keeping of warm milk for several hours in one of the receptacles referred to is the exact reverse of reasonable sanitary precautions to preserve milk in a safe and palatable condition.

The changes that take place in milk at a comparatively high temperature are such that when fed to infants frequently result in digestive disturbances, diarrhoea and other pathological conditions, often terminating fatally.

The manufacturers of at least one of the so-called vacuum bot-

ties, recognizing this danger, call attention in their descriptive literature to the fact that *warm* milk should not be kept in such a receptacle, unless it has been previously Pasteurized or sterilized; and they further state: "Keep the milk *cold* in one bottle, and hot water in the other. At feeding time mix the milk and hot water in proper proportions, which will not only heat the milk, but will dilute it to the required strength," the procedure to be only in accordance with the advice of the physician.

Why Worry About Smallpox ?

Copy of letter and reply to and from Secretary Montana State Board of Health.

JOPLIN, MONT., April 14, 1912.

Dr. T. D. Tuttle, Helena, Mont.:

DEAR DOCTOR—As there are so many here who are alarmed over a case of smallpox, I would ask your advice. Dr. A. E. Ripperton declares it a well-developed case of smallpox and it is admitted that he had been exposed in North Dakota just before coming here. Doctor Almas, of Havre, informed the doctor here that there was no quarantine law here. Doctor Ripperton, at the request of the people, put up a smallpox placard, but a number of the people seem to mingle there just the same, and as a result the whole town is running a risk of being exposed. What would be the proper safeguard? Hoping to hear from you by return mail, and thanking you in advance for your favors, I am, respectfully,

(Signed) H. A. NELSON

HELENA, MONT., April 16, 1912.

Mr. H. A. Nelson, Joplin, Mont.:

DEAR SIR—In reply to your favor of the 14th, would say that the State Board of Health does not require quarantine for smallpox. Quarantine is a makeshift. You have a sure preventive in vaccination. There is no sense in anybody having smallpox unless they want it. Therefore, why should the people pay for quarantine? There is one way to prevent smallpox, and that is vaccination. If you are vaccinated, you have nothing to worry about. If you are not vaccinated, take your choice between vaccination and smallpox. You will be sure to have one or the other sooner or later. Yours very truly,

(Signed) T. D. TUTTLE, *Secretary.*

LITTLE THINGS.

Only a little shriveled seed—
It might be a flower or grass or weed;
Only a box of earth on the edge
Of a narrow, dusty window ledge;
Only a few scant summer showers:
Only a few clear shining hours—
That was all. Yet God could make
Out of these, for a sick child's sake,
A blossom as wondrous fair and sweet
As ever broke at an angel's feet.

Only a life of barren pain,
Wet with sorrowful tears for rain:
Warmed sometimes by a wandering gleam
Of joy that seemed but a happy dream;
A life as common and brown and bare
As the box of earth in the window there,
Yet it bore at last the precious bloom
Of a perfect soul in a narrow room—
Pure as the snowy leaves that fold
Over the flower's heart of gold.

—HENRY VAN DYKE.

BULLETIN

OF THE

Kansas State Board of Health.

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S. J. CRUMBINE, M. D., Secretary and Editor.

W. J. V. DEACON, Registrar.

No. 6.

JUNE, 1913.

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Septic tanks are more desirable than graves.

The season's greatest danger—the typhoid fly!

Be cool—and sweet—and enjoy the hot weather.

It costs less per year to raise a baby than to bury it.

It costs less to have a sanitary toilet than to have a funeral.

“If your milkman brings you warm milk, make it hot for him.”

Too many short coffins are sold in Kansas during the summer months.

Have you been vaccinated to protect you from typhoid fever before you take your summer vacation?

You can not consistently pray “Thy kingdom come on earth,” with a fly-breeding place in your back yard.

Eat moderately, drink cool (not ice cold) water freely, and rest and sleep regularly, and the hot weather will have no terrors for you.

There was a slaughter of Kansas innocents last summer, and preparations are being made by the fly for another slaughter this year.

Public health is purchasable. Within natural limitations, a community can determine its own death rate.—N. Y. Commissioner of Health.

VITAL STATISTICS

Reported to the State Board of Health for May, 1913.

CONTAGIOUS AND INFECTIOUS DISEASES.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.
The State..totals.....	17	3	55	4	213	4	87	0	2024	21
May, 1912.....	23	1	30	2	90	0	24	0	663	4
Allen.....	0	0	2	0	0	0	40	0	0	0
Anderson.....	0	0	0	0	4	0	0	0	0	0
Atchison.....	0	0	0	0	0	0	0	0	3	0
Barber.....	0	0	0	0	0	0	0	0	0	0
Barton.....	0	0	0	0	0	0	0	0	23	0
Bourbon.....	0	0	0	0	0	0	0	0	0	0
Brown.....	0	0	0	0	1	0	0	0	10	0
Butler.....	0	0	0	0	0	0	0	0	35	0
Chase.....	0	0	0	0	0	0	0	0	19	0
Chautauqua.....	0	0	1	0	0	0	0	0	22	0
Cherokee.....	0	0	0	0	3	0	0	0	0	0
Cheyenne.....	0	0	0	0	0	0	0	0	0	0
Clark.....	0	0	0	0	0	0	0	0	1	0
Clay.....	0	0	0	0	0	0	0	0	0	0
Claud.....	0	0	0	0	0	0	8	0	30	0
Coffey.....	0	0	0	0	3	0	0	0	2	0
Comanche.....	0	0	0	0	0	0	0	0	0	0
Cowley.....	2	0	0	0	0	0	0	0	43	0
Crawford.....	0	0	0	0	2	1	12	0	0	0
Decatur.....	0	0	0	0	0	0	0	0	0	0
Dickinson.....	0	0	2	0	0	0	10	0	50	0
Doniphan.....	0	0	0	0	0	0	0	0	2	0
Douglas.....	0	0	4	0	1	0	1	0	0	0
Edwards.....	0	0	0	0	5	0	0	0	11	0
Elk.....	2	0	0	0	0	0	1	0	3	0
Ellis.....	5	0	0	0	0	0	0	0	0	0
Ellsworth.....	0	0	0	0	0	0	0	0	3	0
Finnney.....	3	0	0	0	0	0	0	0	0	0
Finney.....	0	0	2	0	0	0	1	0	6	0
Ford.....	1	0	0	0	0	0	2	0	40	0
Franklin.....	1	0	0	0	0	0	0	0	7	0
Geary.....	0	0	0	0	0	0	0	0	0	0
Gove.....	0	0	0	0	0	0	0	0	0	0
Graham.....	0	0	0	0	0	0	0	0	0	0
Grant.....	0	0	0	0	0	0	0	0	0	0
Gray.....	0	0	0	0	0	0	0	0	0	0
Greeley.....	1	1	0	0	0	0	0	0	0	0
Greenwood.....	0	0	0	0	5	0	0	0	22	0
Hamilton.....	0	0	1	0	0	0	0	0	0	0
Harper.....	0	0	0	0	0	0	0	0	0	0
Harvey.....	0	0	1	0	2	0	0	0	0	0
Haskell.....	0	0	0	0	0	0	0	0	7	0
Hodgeman.....	0	0	0	0	0	0	0	0	16	0
Jackson.....	0	0	0	0	0	0	0	0	27	0
Jefferson.....	0	0	0	0	0	0	0	0	21	0
Jewell.....	0	0	0	0	0	0	0	0	0	0
*Johnson.....	0	0	0	0	0	0	0	0	0	0
Kearny.....	0	0	1	0	7	0	0	0	23	0
Kingman.....	0	0	0	0	0	0	0	0	0	0
Kiowa.....	0	0	0	0	0	0	0	0	0	0
Labette.....	0	0	0	0	0	0	0	0	0	0
Lane.....	0	0	0	0	0	0	0	0	0	0
Leavenworth.....	0	0	2	0	0	0	0	0	1	0
Lincoln.....	0	0	0	0	0	0	0	0	0	0
Linn.....	0	0	0	0	0	0	0	0	6	0
Logan.....	0	0	0	0	0	0	0	0	0	0
Lyon.....	3	0	0	0	0	0	0	0	10	0
Marion.....	0	0	0	0	1	0	0	0	56	0
Marion.....	0	0	0	0	0	0	1	0	82	0
Marshall.....	0	0	0	0	9	0	21	0	0	0
McPherson.....	0	0	0	0	0	0	0	0	0	0
Wende.....	0	0	0	0	0	0	0	0	0	0

* No report from health officer.

CONTAGIOUS AND INFECTIOUS DISEASES—Continued.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.
Miami.....	0	0	0	0	0	0	0	0	0	0
Mitchell.....	0	0	0	0	0	0	0	0	0	0
Montgomery.....	0	0	0	0	1	0	3	0	5	0
* Morris.....	0	0	0	0	0	0	0	0	0	0
Morton.....	0	0	0	0	0	0	0	0	3	0
Nemaha.....	0	0	0	0	0	0	0	0	16	0
Neosho.....	1	0	0	0	0	0	7	0	27	0
Ness.....	0	0	0	0	0	0	0	0	34	0
Norton.....	0	0	0	0	0	0	1	0	7	0
Osage.....	0	0	0	0	0	0	0	0	0	0
* Osborne.....	0	0	0	0	0	0	0	0	0	0
Ottawa.....	0	0	1	0	2	0	2	0	0	0
Pawnee.....	0	0	0	0	4	0	0	0	2	0
Phillips.....	0	0	0	0	0	0	0	0	20	0
Pottawatomie.....	0	0	0	0	0	0	0	0	2	0
Pratt.....	1	0	0	0	0	0	0	0	18	0
Rawlins.....	0	0	0	0	0	0	0	0	0	0
Reno.....	0	0	0	0	1	0	0	0	2	0
Republic.....	2	0	0	0	0	0	0	0	0	0
Rice.....	0	0	0	0	0	0	5	0	5	0
Riley.....	0	0	0	0	0	0	0	0	11	0
Rooks.....	0	0	0	0	0	0	0	0	0	0
Rush.....	0	0	1	1	0	0	0	0	1	0
Russell.....	0	0	0	0	0	0	0	0	0	0
Saline.....	0	0	0	0	0	0	0	0	0	0
Scott.....	0	0	0	0	1	0	0	0	1	0
Sedgwick.....	0	0	0	0	1	0	6	0	1	0
Seward.....	0	0	0	0	0	0	0	0	0	0
Shawnee.....	0	0	0	0	0	0	0	0	4	0
Sheridan.....	0	0	0	0	2	0	0	0	5	0
Sherman.....	0	0	0	0	0	0	0	0	3	0
Smith.....	1	0	2	0	1	0	0	0	0	0
Stafford.....	0	0	1	0	5	0	0	0	0	0
* Stanton.....	0	0	0	0	0	0	0	0	0	0
* Stevens.....	0	0	0	0	1	0	20	0	8	0
Sumner.....	0	0	0	0	0	0	0	0	0	0
Thomas.....	0	0	0	0	0	0	0	0	0	0
Trego.....	0	0	0	0	1	0	0	0	14	0
Wabaunsee.....	0	0	0	0	0	0	0	0	8	0
Wallace.....	0	0	0	0	0	0	0	0	14	0
Washington.....	0	0	0	0	0	0	0	0	0	0
Wichita.....	0	0	0	0	0	0	0	0	0	0
Wilson.....	0	0	0	0	1	0	15	0	0	0
Woodson.....	0	0	0	0	3	0	0	0	23	0
Wyandotte.....	0	0	0	0	0	0	3	0	0	0
Cities:										
Atchison.....	3	0	0	0	0	0	0	0	0	0
Coffeyville.....	0	0	0	0	0	0	0	0	0	0
Fort Scott.....	0	0	0	0	0	0	1	0	1	0
Hutchinson.....	1	1	0	0	1	0	3	0	11	0
Independence.....	0	0	0	0	0	0	0	0	0	0
Kansas City.....	2	0	4	0	21	0	5	0	69	0
Lawrence.....	0	0	0	0	0	0	0	0	0	0
Leavenworth.....	3	0	5	0	2	0	1	0	16	0
Parsons.....	0	0	1	0	3	0	3	0	7	0
Pittsburg.....	0	0	0	0	0	0	3	0	30	0
Topeka.....	0	0	7	0	0	0	0	0	42	0
Wichita.....	2	1	0	0	1	0	13	0	60	0

* No report from county health officer.

Our cities spend six and a half times as much to prevent fire waste as they do to prevent life waste, although the money loss from life waste is six times greater.—*The Human Factor*.

Control of the Common Insect-Borne Diseases.

By W. C. RUCKER, M. S., M. D., Assistant Surgeon-General, U. S. Public Health Service, Washington, D. C. Address given at the third annual School for Physicians and Health Officers at the University of Kansas.

The idea of the transmission of disease-producing organisms to man by insects is no new thing. For example, the Bible (Exodus 8 and 9) tells how the unusual prevalence of flies and lice was followed by a murrain of cattle and an epidemic of boils. It is only within recent years, however, that scientific workers have been able by the use of the microscope and other instruments of precision to trace the course of the seeds of disease through the body of the insect and into the body of man.

In order to intelligently approach the consideration of this latter-day scientific development it is necessary to understand the way in which the insect acquires the organisms which produce disease, the changes which these organisms undergo within the body of the insect, the way in which they are introduced into the human body, and the developmental changes which take place in them in the course of their attack upon the human victim.

Broadly speaking, there are two general methods by which this process is accomplished. These are the mechanical and biological methods. In the mechanical transmission of disease germs by insects we find the insect in question coming accidentally in contact with disease-producing organisms and carrying them into the body of man, either directly, by biting, or indirectly, as by infecting food. It is not necessary for the life of the germ in question that it be carried by any particular insect. No developmental changes which are of any account occur in the organisms during the period of this transportation to man, and therefore we may find many different insects of totally different habits acting as vectors for a given germ. As an example of the mechanical method of transmission, in contradistinction to the biological method of transmission, we have the carriage of typhoid bacilli from infected excrement by flies. In this instance the fly smears his feet, proboscis and wings with the discharges of a person who has typhoid fever, and then alighting on foodstuffs, there deposits the germs, to be taken by some unsuspecting persons. In this instance no change whatever has been undergone by the bacilli, and they could quite as well have been carried by a cockroach, which might similarly infect the food.

In the case of the transmission of tuberculosis by flies, the mechanical method of transmission still obtains, but it has been determined by experiments that in this instance there may be an actual multiplication of the tubercle bacilli within the body of the fly, and that living bacilli may be discharged in the fly's excreta. In the case of the transmission of plague by the flea—another example of mechanical transmission—it is not necessary that any particular species of flea act as the vehicle. The flea becomes infected by biting an animal which has the germs of plague in its blood. The flea imbibes this pest-laden material, and subsequently bites a human being. It is not by the act of biting, however, that it transmits the germs of this disease. The flea has the disgusting habit of depositing his excre-

ment at the time of biting. A person who is bitten naturally suffers some irritation, and rubs or scratches the bitten place. In doing this the germs of the disease are rubbed into the skin, which they penetrate, and thus gain entrance to the body.

The transmission of malaria is a typical example of the biological transmission of a disease-producing parasite. The organism of malaria is a small unicellular animal which grows and develops in the red blood cells of man and in the various tissues of the *Anopheles* species of mosquito. This germ has two complete developmental cycles—one in the blood of man and the other in the body of the female *Anopheles*. The human cycle is the asexual cycle, development taking place without conjugation of the male and female elements. The mosquito cycle, on the contrary, is a sexual cycle, conjugation taking place. It is thus seen that for the perpetuation of this organism it is necessary that it alternate between the body of man and the body of the mosquito. Let it be supposed that a female *Anopheles* (males do not bite) bites a person in whose blood the *Hemancæx malarix* exists. When this blood is taken into the stomach of the mosquito, the two different forms of the germ corresponding to the male and the female elements undergo a series of changes, and conjugation takes place. The result of this union penetrates the wall of the mosquito's stomach, on the exterior of which is produced a small cyst or blister. Development continues within this cyst, and many sharp, spindle-shaped, immature forms are produced. The cyst ruptures. These immature forms are taken up by the blood streams and carried to the salivary glands of the mosquito. When this mosquito bites another person it expectorates through the siphon which is used for extracting blood. It is said that the reason for this act is a desire to thin the blood which is to be extracted. As the saliva is drawn from the gland in which the immature forms are lodged, it is infected with them. These bodies thus introduced into the human system enter the red blood cells, and the person becomes infected with malaria. In yellow fever, although the appearance of the causative germ is not known, thanks to the preliminary work of Finlay and Carter and the conclusive experiments of Reed and his associates, the length of the developmental cycle in man and in the *Stegomyia* mosquito is definitely known.

Flies may carry the germ of typhoid fever, cholera, dysentery and tuberculosis, and it may be that these ubiquitous household pests may carry other diseases as well. Two varieties are commonly met with in this country—the *Musca domestica*, or common house fly, and the stable fly, or *Stomoxys calcitrans*. Both are bred in manure, and it has been recently estimated that each pair of flies surviving the winter may be the ancestors of eight million living flies during the summer. Flies are omnivorous in their habits and will eat filth of almost any description. The first thing to do to get rid of flies is to exclude them from the home of man, and this may be accomplished by the use of screens, both as to doors and windows. These should fit accurately, and are preferably constructed of some permanent noncorrosive material, such as bronze wire. Inasmuch as screens are also intended to exclude mosquitos, the screening should have a mesh of at least eighteen to the inch. After this has been done, it remains to destroy the breeding places of the fly and to get rid of those things which attract them. Stables or other outbuildings should be well screened. The manure should be stored in water-tight metal-lined boxes which are emptied at least

once in ten days. The frequent addition of chlorinated lime, or soaking with kerosene oil, will also prevent breeding. Stables should be maintained in a cleanly condition. The insanitary garbage can is the fly's paradise. The water-tight metal garbage can with a tight fitting lid will feed no flies. If the remainder of the premises is kept clean, few of these pests will be seen therein.

• Mosquitoes of different species are known to transmit malaria, yellow fever, dengue or "break-bone fever," and filariasis (the elephantiasis which is seen so frequently in the tropics). So far as is known, the mosquito type of transmission is biological. More than this, it is also obligatory, i. e., one general species only is concerned in the transmission of a certain disease. Since each of these species has its own particular habits, the methods to be used in destroying them should take into account these differences. In general, it may be said that mosquitoes do not travel far, and live and die on the premises on which they are bred. The yellow-fever mosquito (*Stegomyia calopus*) is a small black-and-white insect, breeding by preference in fresh, clean, quiet water. It is very generally distributed in a belt which extends around the world forty degrees on each side of the equator. In order that this mosquito may become infected it is necessary that it bite a patient in the first three days of his illness. After having thus become infected, a period varying from eleven to twenty days (usually fourteen days, but depending upon the atmospheric temperature) must elapse before it may retransmit the disease. From that time to the end of its life, which is frequently as long as one hundred days, this mosquito may continue to distribute the disease among the nonimmune population. Since this mosquito breeds by preference in fresh, clean, quiet water, the first thing to do in attacking this species is to render collections of water inaccessible to the mosquito. These are usually found to be water containers of various sizes, such as barrels, tanks, cisterns, tin cans, sags in roof gutters, and the junction of the leaves with the stem on plants of the *Agava* family. Breeding places may be screened, drained, salted, oiled, stocked with fish, or destroyed.

It is also necessary that measures be taken to prevent the mosquito from becoming infected, and to this end all cases of fever occurring in the yellow-fever belt should be screened for the first three days of illness, and upon the recovery or death of the patient the house should be fumigated to kill mosquitoes. For this purpose sulphur dioxide, which may be produced by burning sulphur in the proportion of two pounds to the thousand cubic feet of initial air space, is perhaps the best agent. Mosquitoes may also be killed by burning pyrethrum or tobacco, but these latter methods are less efficacious. It should be borne in mind that formaldehyde, which is used as a fumigating agent for certain diseases, will not kill insects. It is interesting in this connection to note that in those locations in the tropics where yellow fever is endemic the disease is probably kept alive by infants in arms who have it in mild form, and thus continue the cycle between the mosquito and the human species.

The yellow-fever mosquito is essentially a domestic animal, and, as far as its relation to the disease is concerned, need be considered only in connection with its proximity to the home of man. The malaria mosquito, on the contrary, does not necessarily live in close proximity to man, and will breed in almost any deposit of fresh water which is quiet and not stocked

with fish or insects which destroy the mosquito larvæ. The same general methods of extermination as outlined above may be used, but they should be carried on in a wider radius. In addition, the human cycle of the disease may be partially controlled by the daily administration of small doses of quinine to all persons living in the infected zone. Also, it should be the rule to sleep under a well-constructed bed net, and endeavor, as far as possible, to avoid being bitten by mosquitoes at all times. To-day malaria is the great scourge of the tropics. It has laid waste and prevented the occupation by the human species of a greater portion of the globe than any other disease. The Island of Mauritius, for example, whose name was formerly synonymous with good health, has in recent years had an enormous amount of malaria, due to the introduction of the *Anopheles* by ships and the germ in the persons of immigrants, with the result that what was formerly a great sanatorium is now an endemic malaria focus. Since this disease may be controlled and limited by the extermination of *Anopheles* mosquitoes, it is the duty of communities in which this species abounds to rid themselves of this menace to health and commerce.

Reference has already been made to the role of the flea in the transmission of plague. This is of extreme importance, because plague is primarily a disease of rodents, and secondarily and accidentally a disease of man. Almost every fur-bearing animal has fleas, which may be easily infected by the ingestion of infected blood. Thus it is found that the rat flea, the ground-squirrel flea and the tarbagan flea have all been convicted at one time or another of having transmitted bubonic plague. The remedy is obvious. If the animal carrying the flea, which bridges the space between the infected rodent and the well human being, be excluded from the home of man, there need be little fear of bubonic plague. Therefore the work which was carried on in California for the eradication of plague was directed very largely at the extermination of rodents. This may be accomplished by a simultaneous attack upon the home and the food supply of the rat and by killing them by the use of poisons and traps. Plague is out upon its march around the world, and for the past five years has been making a steady advance up the Spanish main. Very recently it has appeared in Porto Rico, and for all we know it may now be smouldering in the rodent population of some of our large Atlantic seaports. If a survey of these rodents is made now and the foci of infection stamped out, much money and many lives may be saved in the future. This is a measure of immediate necessity if we would protect our sanitary and commercial interests.

Not the least interesting aspect of the transmission of disease by insects is the role played by the tick in this regard. One species of this insect is known to carry African tick fever, and we have a strictly American disease, almost wholly confined to the Western States—Rocky Mountain tick fever, which is carried by another species, the *Dermacentor andersoni*. The organism of this disease has not yet been discovered, but the season of its prevalence is coincident with the period of greatest tick prevalence, and it is found only in those localities in which ticks occur. Two types of Rocky Mountain spotted fever are known—the mild, which occurs in Utah, Wyoming, Idaho, Nevada, eastern California, Oregon, and Washington; and the severe form, which is found in Montana. Usually the disease is confined to one side of a valley, and in almost every instance there is a history of the patient having been bitten by a tick. Further, the disease has

been experimentally transmitted from one human being to another, from human beings to guinea pigs, and from guinea pigs to guinea pigs by the bite of the tick. Active work is now being carried on in Montana by the United States Public Health Service for the eradication of the disease. The general plan of operation includes the extermination of the small mammals on which the tick lives during the earlier portion of its developmental cycle, and the "dipping" in antiseptic solutions of domestic stock on which the ticks spend a portion of their adult life. Also, the land on which these ticks are found is being cleared and burnt off.

Recently some very interesting work has been done by Surgeon L. D. Fricks, who is in charge of the work of the eradication of Rocky Mountain spotted fever in the Bitterroot valley of Montana. It may be well to call to your mind at the present time the fact that Rocky Mountain spotted fever is very generally distributed throughout the Rocky Mountain states, as far east as central Montana, and as far west as the eastern borders of California, Oregon, and Washington, and Fricks observed that many of the sheep which he examined had entangled in their wool the ticks which are the disseminators of this disease. In Idaho, and all of the states excepting Montana, the disease has a relatively low mortality—about five per cent. In the Bitterroot valley, on the contrary, the mortality reaches as high as 95 per cent of those attacked.

You will recall how Past Assistant Surgeon T. T. McClintock lost his life in the work of studying the eradication of the disease last year, and Fricks was chosen to succeed him, and, as I have remarked, he has recently observed that the wool of sheep in the tick-infested region very frequently contains dead ticks. He took some sheep and loosed some ticks upon them. He found that in their endeavors to reach the hide of the animal the ticks became entangled in the wool and lost their lives. He therefore drew the conclusion that a very good way in which to rid the land of the adult ticks would be to graze sheep over it. At the present time the United States Public Health Service is grazing 25,000 sheep in the infected zone in the Bitterroot valley, for the purpose of removing, and therefore killing off, the adult ticks. The small mammals on which the ticks spend the immature stage of their development are being slaughtered, and in this way it is hoped that the west side of Bitterroot valley, which is the only side infected with the disease, may be rendered free of this scourge. It may not be amiss to point out that this is the only American disease, and while it has an analogy in the tick fever of western Africa, the organism which causes it is unknown and the insect which acts as the vector is entirely different. This work has been in operation for only two summers, but it has resulted in the cessation of cases in what was hitherto a badly infected locality.

Typhus fever, which also goes by the name of "hail fever" and "ship fever," and which in former years was regarded as the inevitable companion of war and famine, until very recently was thought to have entirely disappeared from our country. It has, however, continued in Mexico, where the researches of Nicole, Ricketts and Wilder, and Anderson and Goldberger have demonstrated that it is carried by the body louse (the *Pediculus vestimenti*). Recently Anderson and Goldberger have demonstrated that the head louse (*Pediculus capitis*) may also transmit the disease. More important than all, Anderson and Goldberger, working in the hygienic

laboratory of the United States Public Health Service at Washington, D. C., have proven the identity of Brill's disease, a widespread disease in the United States, with typhus fever. It is thus seen that typhus fever of a mild type is prevalent in the United States. Since the disease is carried by lice, and since lice are the almost inevitable companions of filth and squalor, it is seen that the best way to prevent this disease is to kill lice, and by cleanliness to render their environment unsuitable for their existence. Brill's disease, or mild typhus fever, occurs often in children. Lice are often found on children. Lousy children should therefore be excluded from school until they have been freed from this disgusting parasite.

It is not at all improbable that bedbugs also carry disease. While this has not been proven definitely, there are numerous instances on record in which the evidence tends to incriminate this species. The remedy is apparent.

In addition to the foregoing named insects, which carry specific diseases, one should mention another in which the incrimination has been only partial. I refer to the *Stomoxys*—in other words, *calciatrans*, or stable fly—which in the laboratory, thanks to the researches of Rosenow, Anderson and Frost, has been proven as a possible vehicle of transmission for poliomyelitis, or infantile paralysis. One thing of particular interest in this connection may be noted—that is, that while both Rosenow, working at Harvard University, and Anderson and Frost, working in the laboratory of the United States Public Health Service at Washington, D. C., were able to transmit the disease from monkey to monkey through the intermediation of the stable fly in the autumn months, they were totally unable to do so in the late winter and spring. The reason for this is not apparent at the present time. The evidence as to the malevolent role played by this insect in poliomyelitis is, however, sufficiently strong to warrant us in exerting our efforts against this insect. One should bear in mind that the stable fly is a totally different insect from the common house fly, or *Musca domestica*. Their size and coloration bear such a close semblance to the house fly as to deceive the uninitiated, though the little black, piercing proboscis which in life may always be seen projecting horizontally in front of the head, affords an infallible means of recognition. The body is gray or yellowish brown, with a lighter median stripe on the thorax, and dark spots of transverse bearing on the abdomen. This is a biting fly, whereas the common house fly has no biting apparatus whatever, but is a so-called licking fly, having a proboscis somewhat like the inverted trunk of an elephant.

Among the other insects which may be mentioned, while not strictly a disease carrier, at the same time is a cause of great pain and discomfort to man, is the *Conorhinus sanguisuga*, or cone nose—the so-called kissing bug. This insect has no proboscis, strictly speaking, but has a short, blunt rostrum. Its color is dark brown, with pink markings. They are fully winged when adult, and, as they fly with ease, they enter houses on the wing, being especially attracted by light. They may also run swiftly. Like the bedbug, they conceal themselves during the day and come out at night and bite the sleeper. The bite feels like a blow from a large heavy instrument, almost as though one had been struck with a hammer. The effect of the bite is very varied, but usually there is a sore, itching wound, accompanied by considerable burning and swelling, which in some cases may extend for a considerable area around the point at which the original wound was inflicted. A few years ago there was a great hue and cry over this in-

sect, and its effects were undoubtedly greatly exaggerated. The fact remains, however, that they do cause much pain and discomfort.

There has been a great discussion in recent years as to the etiology and method of transmission of pellagra. It is needless to state that this disease is very widespread throughout the United States, although it occurs in greater concentration in our southern states. All of you are familiar with the Maize theory of its causation, another theory that it is the result of nitrogen starvation, and still another theory that it is caused by a parasite inhabiting the intestines, possibly one of the *Amœbæ*. Sambon, of the London School of Tropical Medicine, has advanced the theory that the disease may be transmitted by sand flies, or *Simuliæ*. These flies go by various names, such as black fly, buffalo gnats, and in certain districts they are wrongly called mosquitoes. They are very widely distributed, from Iceland to the tropics, and are found in swamps and damp places. Their bite is very severe and produces much pain and considerable inflammation, both in animals and in man. They are dark-colored, small flies, rather stoutly built, and having fairly good-sized wings. In their larval stage they are aquatic, and are bred on stones in swiftly moving water. They may also be found attached to grass, water weeds, twigs or roots. In the earliest stage they are transparent, but later they become gray or brown. The larvæ have a number of hooklets on the posterior part of the body, and attach themselves to the stone, twig, etc., hanging with the head downward, and collecting food with a pair of scoops, shaped something like a fan, extending from either side of the head. In the pupal stage they live in a small shoe-shaped cocoon open at one end. The cocoon is formed of a silky substance. It is not proven that the species mentioned by Sambon, the *Simulium reptans*, is the disseminating agent of pellagra, but it is reported by certain observers that they have existed in certain places in such great numbers as to strangle children, and even to cause their death.

Having now considered a few of the insects which carry disease, let us pass to the consideration of the measures which are to be used against them. First of all, let us consider the general principle which underlies any efforts in this direction. When man undertakes to kill off any species, no matter whether it be other men, the lower animals, or insects, he must rely on no single method. In the extermination of vermin of any sort there is no royal road. The battle must be carried on along every avenue of the existence of the creature which it is desired to exterminate. Thus, in combating insects, they must be killed in the egg, the larval, the pupal, and the adult stages. They must be prevented from laying eggs, they must be prevented from gaining sustenance, they must be fought by day and by night, in the places where they breed and in the places where they live, and advantage must be taken of an accurate knowledge of the breeding habits and life cycle of the species to be combated.

In the control of malaria there are two things to be considered; first, the extermination of the vehicle of transmission of the plasmodium; second, the destruction of the plasmodium itself. The *Anopheles* species of mosquito is not essentially a domestic species. The eggs may be laid anywhere that there is fresh water, no matter whether the water be clean or whether it be dirty. This species is a dweller not only of the swamps, but also of the insanitary back yard, and in both of these situations it must be attacked ruthlessly if we are to rid ourselves of the disease which

caused Greece to fall and Rome to totter, and which to-day has rendered uninhabitable many of the richest portions of the earth's surface. It is estimated—and the estimate is conservative—that this disease causes an annual loss of \$50,000,000 in the United States. In the first place, the insect must be attacked in its breeding places. This may be done in several ways: First, draining. This applies particularly to swampy areas, which, if well drained, will leave no pools of water in which the insect may find a place to lay its eggs. Sometimes it is not practicable to drain, and in that situation the land may sometimes be filled. In other situations it is neither necessary to drain nor to fill, and all that may be needed is to cut off or burn off the rank vegetation which prevents the evaporation of the little pools in which this species may breed. In other situations none of these measures may be practical, and if the land is of very little value an effectual method of killing off and preventing further breeding of these mosquitoes is by the placing of considerable quantities of rock salt in the pools. Another measure is the addition of some cheap antiseptic to the pool—and there are several such preparations on the market. All of them depend for their efficiency upon some compound of the phenol group or cresylic acid.

There still remains another method which may be described—that is, the planting of small fish, such as the stickleback minnows, pike or goldfish, in the pools. This method is of value in treating small fountains, horse troughs, horse ponds and the like, which it is not desired to drain, fill, or impregnate with some substance which will be toxic to insect life. Water bugs of the variety which some biologists call luck bugs may also be used for this purpose.

The second phase of this problem consists in the further protection of man against these pests, the killing of which is, of course, of prime importance. Secondly, comes the screening of the habitation of man. You will remember, however, the discovery of the transmission of filariasis by mosquitoes through the most excellent work of Patrick Manson, which inspired Sir Ronald Ross, at that time a major in the royal army medical corps of England, to carry on his famous experiments on the Roman Campagna. The name of this region has always been almost synonymous with that of malaria ("bad air"). Ross went onto the Campagna with a few companions and lived there an entire summer with a screened house. As long as the party protected themselves against mosquitoes they did not contract the disease, but when they allowed themselves to be bitten they caught malaria.

Screening, in order to be efficient, should be of metal, preferably of bronze. It should have a mesh of from sixteen to eighteen to the inch. It should be so applied as to absolutely exclude the entrance of insects. In case this measure is not practicable, it is wise to sleep under a bed net. Most insects bite at night—at least, that is the time when man gets the largest number of bites—and it is therefore important that he protect himself during his sleep. Bed nets should be constructed of fine bobinet, and should hang clear of the bed, because the insects have been known to bite through it when he sleeps with it wrapped around him.

It is readily understandable that if the *Anopheles* mosquito is prevented from imbibing the plasmodium, the sexual cycle of the latter is prevented, and that sooner or later the disease will die out among men. Therefore,

when we protect man from mosquitoes we also protect the mosquitoes against man, provided the man in question has malaria. A line of reinforcement to this is the careful treatment of all persons having malaria. As an aid to this, the disease should be reportable in all communities in which it exists in any considerable quantity, and it is the duty of the health authorities in such a community to see that all such reported cases have appropriate treatment. Furthermore, it is equally wise for persons living in a badly infected zone to more or less immunize themselves against malaria by the daily taking of small doses of quinine.

When we come to the consideration of the control of the spread of yellow fever, we find that the problem is somewhat modified by the fact that this species of mosquito is essentially domestic in its habits. This renders the problem even easier of solution. The fact that it breeds by preference in fresh, clean, quiet water, and the fact that it flies but short distances from the point at which it is bred, also helps in controlling the disease. The problem of the control of yellow fever may be divided into the killing of the mosquito in its immature stages by the measures which have been described above, by the killing off of all the adult mosquitoes, by fumigation with sulphur in the proportion of two pounds to 1000 cubic feet of initial air space, by the apprehension and protection against mosquitoes of all fever patients during the first three days of their illness, and by the observation of all contacts for a period of five days after a visit to a known infected locality.

In the United States the insect which we most fear, because it is the transmitter of so many diseases, is the common house fly. It has been incriminated as the distributing agent in practically all of the enteric group of diseases. Its annual death toll in the matter of infantile diarrhea, or summer complaint, is enormous. It is conceived in iniquity, bred in filth, and spends a life of crime. The eggs are laid by preference in manure, and this should be our starting point in killing off this insect. Clean stables, proper disposal of manure, clean yards, proper disposal of garbage, screened houses, screened pantries, screened foodstuffs, all act as deterrents to the spread of disease by this insect. Mechanical cleanliness is most important; then comes the use of disinfectants, such as chlorinated lime, carbolic acid, cresylic-acid preparations, and the like; and, last of all, do not forget Paris green, sprinkled on garbage and manure. It kills off the maggots as they come to the surface. It is cheap, efficient, easily procured, and effective.

Last summer, in a facetious turn of mind, I composed a little ditty on the insect transmission of disease. It is short and to the point, though somewhat lacking in that elegance which should characterize the productions of a true poet:

The flea and the fly, the mosquito and the louse,
All lived together in a very dirty house.
The flea spread the plague,
And the skeeter spread the chills—
All worked together to make undertakers' bills.
The fly spread typhoid, and the louse spread typhus, too;
Folks in that house were a mighty sickly crew.
Along came a man and he cleaned up the house,
Screened out the skeeter and swatted the louse.
The fly and the flea he pinned against the wall;
Now the people in that house are never sick at all.

Man in the Stone Age was obliged to carry on an unceasing battle for existence with ferocious mammals and venomous serpents. Happily, those days have passed, but to-day the struggle to live is no less acute, but it has resolved itself into a combat with the lower forms of vegetable and animal life. Insects, as the intermediary vehicles in the transmission of disease, are a menace to the present and future welfare of the race, and if we would preserve our physical integrity we must live in insect-free surroundings. The field for research into this problem is a wide one, and as yet has only been touched in its most apparent phases. The future must see a combined effort on the part of the entomologist, the physician and the sanitarian, if we would conquer these dangerous and annoying pests. The burden can not be borne entirely, however, by men of science; the citizen and man of affairs must do his part in the application of the discoveries which mean so much to the individual and to the race.

A Community Problem.

Dr. John C. Lardner, county health officer of Bourbon county, recently sent a communication to the *Fort Scott Tribune*, in which was featured in an admirable manner an all too common problem affecting our community social and economic welfare.

It would seem from the conditions described by the writer that the state has a duty to perform to relieve society from its increasing burdens of which this is a unique example. How long will society tolerate conditions described in Doctor Lardner's article? Certainly there is food for thought for our sociologists and legislators.—[EDITOR.]

EDITOR TRIBUNE: "There are sermons in stones and books in running brooks." Every community has its heartaches, and the pathos of it all appeals to many of us. This is a story of the poor—the mentally deficient and the depraved are included in its personnel.

In a dilapidated old building with most of the windows out, no screens on the doors or windows, and where the flies and droning wasps come in and stay at their pleasure, lies a woman who has undergone the pangs of motherhood twelve times. There are now living of the children born to her nine boys and girls, ranging in age from sixteen years to twins—a boy and girl—born last Sunday morning. The county furnishes them the bare necessities to keep them from starving, and the associated charities of the city is furnishing a nurse and sufficient clothes to protect the twins and the remainder of the brood from absolute nakedness.

Perhaps it is as well that the school of hard knocks dulls the sensibilities, for the mother does not worry over her plight. A visitor going into the house—it could not be called a home, for it has none of its attributes without it be the one common to all animal creation, the love of a mother for her offspring—saw a child asleep on the porch. It was not lying on anything that resembled a bed. It was curled up in a chair sound asleep, with its mouth partially open, and flies innumerable were crawling about

its face, and some were crawling in and out of the open mouth, and finding resting places within the child's nostrils. A child that could sleep soundly in such an environment must have been wholly exhausted, for the tormenting insects did not seem to annoy him in the least. "The short and simple annals of the poor" tells of lives of destitution, but that child of three years must have been inured to more torments than beset Job to be able to sleep on so peacefully.

When a child of such tender years endures so much, what must those who have older grown suffer? Our own Ironquill wrote of the poverty of the woman who had an anodyne for grief, but the dulled sensibilities of childhood must endure the pain without hope of a future recompense.

The older children are all mentally deficient. Seven are said to be idiots, and it can be surmised what is in store for the twins that have just been born.

The father and mother are cousins. The eugenist tells us the marriage of cousins is not necessarily a calamity providing that the ancestry was pure and had no bad mental or physical trait—that just as fine children are born to people related by consanguinity as where there were no blood ties. The mistake and the crime is to allow two people to marry, whether they be related or not, whose ancestors show the same line of defects, mentally and physically. If there are idiots, epileptics or criminals in both parent families, these defects are bound to show more prominently in their children, just as commendable traits are manifested in the properly mated.

The father of this family lies in jail accused by the oldest daughter, who is *enciente*, of being the cause of her condition. She is a defective, and as the father denies the responsibility, we can not with impunity call him a criminal. A crime, though, has been committed. The girl is to become a mother, and there can be no doubt as to what the baby's lot in life will be.

Two people in the course of seventeen years are responsible for bringing into the world ten children who are bound to be dependent on the state's bounty. If measures are not taken to prevent the calamity, there is no doubt but the other girls in the family, soon after reaching puberty, will meet the fate of their older sister. Licentiousness has no pity for its victims.

Will any one deny the necessity of this family being cared for by authority of the law? The eugenist will say, "I told you so." The Levite will wrap about him his cloak and pass to the other side of the road. The Pharisee will again thank God for his self-righteousness, and our modern legislator with the same guilty conscience will reply with Cain, "Am I my brother's keeper?"

Meanwhile the twins will grow, and though in childhood's days there may be the "loud laugh that betrays the vacant mind," the immutable law must be fulfilled—"clay on the potter's wheel"—dependents, defectives, and mayhap criminals

JOHN C. LARDNER,
County Health Officer.

FORT SCOTT, June 26.

Rural Sanitation.

By W. C. RUCKER, M. S., M. D., assistant surgeon-general, U. S. Public Health Service.

The happy days of childhood
I often call to mind,
I love to live them o'er again
By memory's light refined—
The orchard and the meadow,
And the loft of fragrant hay,
The garden and the privy,
And the well not far away.

The farm yard with its litter
Of manure round about,
The milking shed, where flies galore
Flew buzzing in and out,
The pig sty and the chicken house,
The hens that scratched all day
In the ground beneath the privy,
With the well not far away.

We took our joys and sorrows
As they chanced to come along.
My brother had the ground itch,
And he did n't grow up strong,
And Mary died of fever—
It was mighty sad that day—
But we didn't blame the privy
Nor the well not far away.

In the summertime mosquitoes
Used to sing the whole long night,
But we would keep the windows closed
And thus avoid the bite;
But Billy got the ague
And Lizzie pined away—
Mosquitoes, foul air, privy—
And the well not far away.

We used to think that death was just
A punishment for sin—
The sin of ignorance, I say!
So let us now begin
To try and get the windows screened,
But open night and day,
And a sanitary privy
With the well quite far away.

Let's clean the ous at milking time,
Let's clean the barnyard, too;
Let's rid ourselves of fevers
And the chills and ague crew;
Let in the air and sunshine
But drive the fly away,
With the ancient typhoid privy
And the well not far away.

IT CAN BE DONE.

Somebody said that it could n't be done,
But he, with a chuckle, replied,
That "maybe it could n't," but he would be one
Who would n't say so till he tried.
So he buckled right in, with the trace of a grin
On his face—if he worried, he hid it.
He started to sing as he tackled the thing
That could n't be done, *and he did it.*

Somebody scoffed, "Oh, you'll never do that,
At least, no one ever has done it,"
But he took off his coat and he took off his hat,
And the first thing we knew he'd begun it,
With the lift of his chin, and a bit of a grin,
Without any doubting or quiddit.
He started to sing as he tackled the thing
That could n't be done, *and he did it.*

There are thousands to tell you it cannot be done;
There are thousands to prophesy failure;
There are thousands to point out to you, one by one,
The dangers that wait to assail you;
But just buckle in with a bit of a grin,
Then take off your coat and go to it.
Just start in to sing as you tackle the thing
That "cannot be done," and you'll do it.

—Anonymous.

BULLETIN

OF THE

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S. J. CRUMBINE, M. D., Secretary and Editor.

W. J. V. DEACON, Registrar.

No. 7.

JULY, 1913.

VOL. IX

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The stable fly carries the germ of infantile paralysis. Put the garbage hauler and chloride of lime on his trail—they will get him.

There is no greater nuisance in any city than a poorly kept stable.

"Few men are living to-day; most of them are preparing to live another day." Are you? Then don't shirk work. Keep cleaning up.

Sanitation and sickness are irreconcilable terms. Failure in the first and funerals in the second are synonymous.

The crank of to-day is the sage of to-morrow. Our special brand of "crankiness" is community cleanliness. Get in our band wagon and attain a reputation for wisdom.

Watching the thermometer does n't keep the mercury down, and may keep the working capacity of your heat centers up.

VITAL STATISTICS

Reported to the State Board of Health for June, 1913.

CONTAGIOUS AND INFECTIOUS DISEASES.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.
The State... totals.....	41	2	39	2	53	2	143	1	338	0
June, 1912.....	48	4	24	0	47	1	80	0	104	0
Allen.....	0	0	3	0	0	0	1	0	0	0
Anderson.....	1	0	0	0	12	0	0	0	0	0
Atchison.....	0	0	1	0	0	0	0	0	1	0
* Barber.....										
Barton.....	0	0	0	0	0	0	0	0	4	0
Bourbon.....	0	0	0	0	0	0	0	0	0	0
Brown.....	0	0	0	0	0	0	0	0	0	0
Butler.....	0	0	0	0	0	0	0	0	47	3
Chase.....	0	0	0	0	0	0	0	0	2	0
Chautauque.....	0	0	2	0	0	0	0	0	25	1
Cherokee.....	1	0	0	0	0	0	2	0	1	0
Cheyenne.....	1	0	0	0	0	0	0	0	0	0
Clark.....	0	0	0	0	0	0	0	0	0	0
Clay.....	0	0	0	0	0	0	0	0	0	0
Cloud.....	0	0	0	0	2	0	5	0	13	0
Coffey.....	0	0	0	0	3	0	0	0	0	0
Comanche.....	0	0	0	0	0	0	1	0	0	0
Cowley.....	0	0	1	0	0	0	0	0	9	0
Crawford.....	2	0	0	0	1	0	2	0	0	0
Decatur.....	0	0	0	0	0	0	0	0	0	0
* Dickinson.....										
Doniphan.....	0	0	1	0	0	0	0	0	0	0
Douglas.....	1	0	5	1	0	0	2	0	4	0
Edwards.....	3	0	0	0	0	0	0	0	0	0
Ellis.....	3	0	0	0	0	0	0	0	2	0
Ellsworth.....	2	0	0	0	0	0	0	0	0	0
Finney.....	0	0	0	0	0	0	0	0	2	0
* Ford.....										
Franklin.....	1	0	0	0	0	0	0	0	0	0
Geary.....	0	0	0	0	0	0	0	0	16	0
* Gove.....										
Graham.....	0	0	0	0	0	0	0	0	0	0
Grant.....	0	0	0	0	0	0	0	0	0	0
Gray.....	0	0	0	0	0	0	0	0	0	0
Greeley.....	0	0	0	0	0	0	0	0	0	0
Greenwood.....	0	0	0	0	1	1	0	0	2	0
Hamilton.....	0	0	0	0	0	0	0	0	0	0
Harper.....	0	0	0	0	0	0	2	0	10	0
Harvey.....	0	0	1	0	0	0	0	0	0	0
Haskell.....	0	0	0	0	0	0	0	0	2	0
Hodgeman.....	0	0	0	0	0	0	0	0	0	0
Jackson.....	1	0	0	0	0	0	0	0	17	0
Jefferson.....	0	0	0	0	0	0	0	0	0	0
Jewell.....	0	0	0	0	0	0	0	0	0	0
* Johnson.....										
Kearny.....	1	0	0	0	1	0	0	0	10	0
* Kingman.....										
Kiowa.....	0	0	0	0	0	0	0	0	0	0
Labette.....	1	0	1	0	0	0	1	0	0	0
Lane.....	0	0	0	0	3	0	0	0	0	0
Leavenworth.....	0	0	0	0	1	0	0	0	1	0
Lincoln.....	0	0	0	0	0	0	0	0	0	0
Linn.....	0	0	0	0	0	0	0	0	0	0
* Logan.....										
Lyon.....	2	0	0	0	0	0	1	0	0	0
Marion.....	1	0	0	0	1	0	62	0	1	0
Marshall.....	0	0	0	0	1	0	0	0	10	0
McPherson.....	0	0	0	0	2	0	2	0	5	0
Meade.....	1	0	0	0	0	0	0	0	0	0

* No report from health officer.

CONTAGIOUS AND INFECTIOUS DISEASES - Concluded.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.
Miami	0	0	0	0	0	0	0	0	8	0
Mitchell	0	0	0	0	0	0	0	0	0	0
Montgomery	2	0	0	0	2	0	1	0	10	0
Morris	0	0	0	0	0	0	0	0	0	0
Morton	0	0	0	0	0	0	0	0	0	0
Nemaha	0	0	0	0	0	0	0	0	24	0
Neosho	1	0	0	0	0	0	6	0	2	0
Ness	1	0	0	0	0	0	0	0	2	0
Norton	0	0	0	0	0	0	0	0	0	0
Osage	0	0	0	0	0	0	0	0	0	0
Osborne	0	0	0	0	0	0	0	0	0	0
Ottawa	0	0	0	0	0	0	4	0	0	0
Pawnee	0	0	0	0	4	0	0	0	2	0
Phillips	0	0	0	0	0	0	2	0	2	0
Pottawatomie	0	0	0	0	0	0	0	0	2	0
*Pratt										
*Rawlins										
Reno	0	0	0	0	0	0	0	0	0	0
*Republic										
Rice	0	0	0	0	0	0	6	0	0	0
Riley	0	0	0	0	2	0	1	0	1	0
Rooks	0	0	0	0	0	0	0	0	0	0
Rush	0	0	0	0	0	0	0	0	12	0
Russell	0	0	0	0	0	0	0	0	0	0
Saline	2	1	0	0	1	0	0	0	0	0
Scott	0	0	0	0	0	0	0	0	0	0
Sedgwick	0	0	1	0	0	0	3	0	1	0
Seward	3	0	0	0	0	0	0	0	12	0
Shawnee	0	0	1	0	0	0	0	0	4	0
*Sheridan										
Sherman	0	0	0	0	0	0	0	0	0	0
Smith	0	0	2	0	1	0	0	0	0	0
Stafford	0	0	0	0	0	0	0	0	2	0
*Stanton										
*Stevens										
Sumner	0	0	3	0	0	0	10	0	3	0
Thomas	0	0	0	0	0	0	0	0	0	0
Trego	0	0	0	0	0	0	0	0	0	0
Wabunsee	0	0	0	0	0	0	0	0	0	0
Wallace	0	0	0	0	0	0	0	0	0	0
Washington	0	0	0	0	0	0	0	0	0	0
Wichita	0	0	0	0	0	0	0	0	0	0
Wilson	0	0	0	0	0	0	1	1	0	0
Woodson	0	0	0	0	0	0	1	0	7	0
Wyandotte	0	0	0	0	0	0	0	0	0	0
Cities:										
Atchison	0	0	0	0	0	0	0	0	0	0
Coffeyville	2	0	0	0	0	0	0	0	0	0
Fort Scott	0	0	0	0	0	0	0	0	1	0
Hutchinson	2	1	0	0	0	0	0	0	5	0
Independence	0	0	0	0	0	0	0	0	0	0
Kansas City	1	0	2	0	6	0	5	0	35	0
Lawrence	0	0	0	0	0	0	0	0	0	0
Leavenworth	0	0	1	0	0	0	0	0	8	0
Parsons	0	0	0	0	6	0	1	0	0	0
Pittsburg	0	0	4	1	3	1	3	0	2	0
Topeka	0	0	7	0	0	0	0	0	42	0
Wichita	1	0	0	0	0	0	9	0	20	0

* No report from county health officer.

Typhoid immunity may be obtained by vaccination; so why gamble with the typhoid bacillus when the cards are stacked against you?

Prosecutions Terminated.

JULY 1, 1912, TO JULY 1, 1913.

VIOLATIONS OF SANITARY LAW.

- | <i>Name and address.</i> | <i>Case and termination.</i> |
|-----------------------------------|---|
| F. Schaffer, Bonner Springs. | Dirty barber shop. \$1 and costs. |
| Peter Charowhas, Topeka. | Insanitary candy and ice-cream factory. \$5 and costs. |
| C. C. Lamb, Topeka. | Insanitary restaurant. \$10 and costs. |
| Wm. Rollins, Belleville. | Insanitary meat market. \$10 and costs. |
| W. E. Vose, Pacific Hotel, Ellis. | Insanitary kitchen and ice box. \$10 and costs. |
| McCoy & Johnston, Cawker City. | Insanitary slaughter house. Fines and costs, \$35.50. |
| H. Goldenschlag, Wichita. | Unlawful sidewalk display. \$25 and costs. Refused payment of fine and went to jail. |
| John M. Jewell, Goodland. | Insanitary meat market and dirty slaughter house. \$50 and costs. |
| Wm. Walker, jr., Goodland. | Insanitary meat market and slaughter house. \$50 and costs. |
| R. O. Coleman, Penalosa. | Insanitary drug store. \$5 and costs. |
| Mont & Shell Hensley, Bucklin. | Insanitary place and exposed foods. \$30 and costs. |
| J. M. Rollins, Basehor. | Insanitary meat market. Dismissed on reform promise. |
| John Crawford, Winfield. | Insanitary place and refrigerator. \$10 and costs. |
| Mrs. A. Schalker, Leavenworth. | Insanitary bakery. Case dismissed by court on plea of defense that she had complied with orders of inspector. |
| Frank Willett, Topeka. | Insanitary refrigerators; two counts. \$5 and costs. |
| Geo. L. Edwards, Wichita. | Open closet in restaurant kitchen. Case dismissed on full compliance. |

VIOLATIONS OF FOOD AND DRUG LAW.

- Steffen-Bretch Ice and Ice Cream Co., Wichita. Manufacture and sale of substandard ice cream. \$25 and costs.
- Fred Powers, Fort Scott. Dirty milk. \$5 and costs—\$12.95.
- Davis Mercantile Co., Topeka. Four counts on reprocessing canned peaches. \$50 and costs; \$12.85 on third count.
- Moules Bros., Wichita. Substandard ice cream. \$25 and costs.
- Andrew Kritikos, Wichita. Substandard ice cream. \$25 and costs.
- Ed. Cero, Wichita. Substandard ice cream. \$25 and costs.
- J. N. Jurgens, Wichita. Substandard ice cream. \$25 and costs.
- Frau Lucius, Topeka. Violation of medical practice law and food and drug law. Dismissed by court upon payment of costs by defendant and promise never to return to Topeka.
- W. H. Gable, Arcadia. Unlabeled vinegar, short-weight bread, and insanitary condition. \$35 and costs.

<i>Name and address.</i>	<i>Case and termination.</i>
Eaton Hotel (S. G. Humphrey, manager), Wichita.	Serving substandard ice cream. \$25 and costs.
G. A. Johnson (Peerless Coffee Mills), Wichita.	Adulterated coffee (chicory added). Plea of guilty; \$10 and costs.
J. J. Pierson, Parsons.	Selling decomposed canned fruit. \$10 and costs.
Biles Bros., Pittsburg.	Substandard ice cream. \$25 and costs.
T. P. Griggs, Pittsburg.	Substandard ice cream. \$25 and costs.
Pappas Bros., Pittsburg.	Substandard ice cream. \$25 and costs.
Otto Schmeckel, Leavenworth.	Selling adulterated vinegar. Case not filed by county attorney.
Colby Bottling Works, Colby.	Adulterated concoction of apple cider. Case not filed by county attorney.
M. L. Probst, Pittsburg.	Adulterated and misbranded canned peaches. \$5 and costs.
M. Pauline, Wichita.	Adulterated blackberry, grape, peach and apple ciders; four counts. \$4 and costs.
Murray & McFarland, Wichita.	Adulterated cherry cider. \$2 and costs.
Snyder Ice Cream Co., Wichita.	Manufacture and sale substandard ice cream. \$25 and costs.
O. W. Dieterick, Topeka.	Substandard cream; two counts. Plea of guilty; \$25 and costs. Case appealed to district court. Fine remitted pending future conduct. Paid costs of \$60.
Foster Bros., Washington.	Sale of adulterated and misbranded lard. Fined minimum and costs.
Topeka Pure Milk Co., Topeka.	Substandard ice cream; two counts. \$25 under dairy law. Minimum and costs under food and drug law.
W. H. Kinney, Corona.	Sale substandard ice cream. \$10 and costs.
A. M. Lewellen, Gaylord.	Adulterated essence of peppermint. \$11 and costs.
W. A. Pendlebury, Horton.	Sale adulterated lard. \$10 and costs.
O. G. Duff, Horton.	Sale adulterated lard. \$10 and costs.
Bert Moore, Inman.	Adulterated spirit of peppermint. \$10 and costs.
Huggins & Huggins, Coffeyville.	Sale adulterated lard. Fine and costs, \$18.40.
J. B. Gordon, Coffeyville.	Sale adulterated lard. Fine and costs, \$17.65.
E. M. Lanigan (American Tea Co.), Coffeyville.	Adulterated flavor of lemon. Case dismissed. Defendant paid costs.

VIOLATIONS OF WEIGHTS AND MEASURES LAW.

H. H. Stine, St. Francis.	Selling short-weight bread. \$5 and costs.
Arkansas City Produce Co., Arkansas City.	Misbranded and short-weight butter; 20 counts. Plea of guilty to five counts. Fine and costs, \$160.85.
Bidwell Co., Wichita.	Short-measure canned apples and syrup. \$30 and costs.
B. F. Copley, Wichita.	Short-weight butter. \$100 and costs.
C. P. Kelso (Kelso Grocery Co.), Pittsburg.	Short-weight flour. \$5 and costs.
Nick Farero, Corona.	Short-weight sacked corn chop. \$5 and costs.
Dennis Ranrvey (French Coöperative Store), Corona.	Short-weight sacked corn chop. \$5 and costs.

VIOLATIONS OF HOTEL LAW.

<i>Name and address.</i>	<i>Case and termination.</i>
T. H. Correll, Ellsworth.	Common cup and common towel. Plea of guilty; fined.
Frank Rogers, Ellsworth.	Common cup and common towel. Plea of guilty; fined.
Commercial Hotel (L. & M. Van Curen), Clay Center.	Short top sheets. Fined minimum and costs.
Jacob Forster, Abilene.	Common towel. \$10 and costs.
Miss Messing, Abilene.	Common towel. \$10 and costs.
Wm. Lynch, Leavenworth.	Violating hotel law. Small fine and rooms closed.
Mrs. Emma Pearson, Wichita.	Roller towel. Dismissed; claimed permission had been given to use private towel.
Thos. Larkin, Leavenworth.	Violation hotel law. House closed; case dismissed.
Nicholas Copple, Fort Scott.	Violation hotel law. House closed; case dismissed.
Fred C. Thomas, Florence.	Violation hotel law. \$10 fine.
G. W. Carson, Kansas City.	Violation hotel law. \$10 and costs.
J. D. Crawford (Model Hotel), Winfield.	Short sheets; no fire extinguishers; insanitary. \$5 and costs.
W. J. Trousdale, Winfield.	Dirty hotel and noncompliance with hotel requirements. Fined \$37.75.
Mrs. Josie Possing, Pittsburg.	Violation hotel law. \$25 and costs and house closed.
C. F. Gibbs, Wichita.	Violation hotel law. Defendant closed place and left town before the case was brought.
Mrs. Hattie Hayes and L. Steinbuschel, Wichita.	Hotel law; no fire escapes on front; no ropes at third floor. Fined minimum and costs.
C. F. Gibbs and Mrs. D. S. Hersey, Wichita.	Hotel law; no fire escapes nor ropes. Fined minimum and costs.

VIOLATIONS OF LINSEED OIL AND TURPENTINE LAW.

B. D. Hickey, Chanute. Adulterated linseed oil. \$10 and costs.

FOOD ANALYSIS No. XLVI.

By PROF. J. T. WILLARD, Analyst for the Board, and C. A. A. UTT, Assistant.

MANHATTAN, KAN., July 23, 1913.

We present herewith the results of the examination of a considerable number of samples of certain classes of foods.

BUTTER, OLEOMARGARINE, ETC.

Insp. No. 9735, serial No. 5076. Butter; Sweet Clover brand, Manufactured by the Arkansas City Produce Co., Arkansas City, Kan., and sold by Barr Bros., Independence. Sample marked "Containing 15 ounces." The average net weight of the five prints was 14.34 ounces. The composite sample from the five prints

showed it to contain: water, 16.16 per cent; fat, 81.06 per cent; casein, 0.91 per cent; ash, 1.82 per cent.

Insp. No. 70159, serial No. 10474. Creamery butter in bulk. Manufactured by Clay Center Creamery Co., Clay Center, Kan. Sample of about one pound weight, in good condition, and upon analysis it was found to contain: water, 14.66 per cent; fat, 79.92 per cent; casein, 1.01 per cent; ash, 4.45 per cent. Passed.

Insp. No. 6722, serial No. 10539. Oleomargarine. Manufactured by Armour, Kansas City, and sold by Lindsborg Mercantile Co., Lindsborg, Kan. Sample gave reactions for annatto color. Illegal if sold as uncolored oleomargarine or as butter.

Insp. No. 90081, serial No. 10651. Oleomargarine; Marigold brand. Manufactured by the Morris Packing Co., Kansas City, and sold by Hale & Owens, Wellington. No reactions for artificial color. Passed.

Insp. No. 9767, serial No. 5139. Butterine; Mistletoe brand. Manufactured by the Fowler Packing Co., Kansas City, Mo., and sold by Hale & Owens, Wellington, Kan. Reactions for annatto color.

MINCE MEAT.

For over a year the department has been testing samples of mince meat, both that ready for use and the form sold as condensed mince meat. There has been considerable interest in the matter because of the requirement of 10 per cent of meat which was embodied in our standard. It is practically impossible to determine the amount of meat in mince meat, and only a rough approximation can be made by microscopical examination. It seemed that it might be possible to form some judgment concerning the relative amount of meat in mince meat by making determinations of the percentage of nitrogen present. Although nitrogen is found in the protein constituents of the fruits used in mince meat, the percentage is much less than it is in meat, and hence the percentage of nitrogen in mince meat would be very strongly influenced by the amount of meat used.

COVE OYSTERS.

Insp. No.	Serial No.	Seller.	Place.	Brand.	Net weight, grams	Weight of liquor, grams	Weight of oysters. Ounces... Grams...	Per cent of solids	Retail price per can	Number of oysters	Class.	
9772	10484	J. W. Hamilton.	Ashland	Le-Hi	321	195	136	12.33	\$0.10	40	Passed.	
9773	10485	Geo. McNabb.	Nashville.	Aquelon	281	215	68	7.34	7.34	7	Illegal.	
9775	10486	Pinney Bros.	Sawyer	Telephone	276	148	90	8.18	10	22	"	
9776	10487	Pinney Mercantile Co.	"	Admiration.	300	200	100	8.30	10	30	"	
9778	10488	"	"	Swan	297	171	125	8.74	10	30	"	
9779	10489	"	"	High Up	300	183	117	10.18	10	42	Passed.	
98030	10618	S. S. Rice & Son.	Topoka	Old Tom Bale.	309	186	123	10.60	10	53	"	
98031	10619	W. E. Alton	"	La-Da-Ra.	317	180	137	10.58	10	53	"	
98032	10615	"	"	Lynndon	319	302	277	11.32	20	53	"	
98033	10616	"	"	Reeward	332	360	322	11.32	15	56	"	
98034	10617	Dibble Grocery Co.	"	Beauty	300	200	100	8.63	10	26	Illegal.	
98035	10618	"	"	Front Light	232	135	97	11.82	10	26	Passed.	
98036	10619	"	"	Invader	300	178	122	10.17	10	56	"	
98037	10620	Star Grocery	"	Crown	311	192	119	10.17	10	55	"	
98038	10621	Doyle Grocery Co.	"	Punch	314	180	164	12.14	10	76	Illegal.	
98039	10622	J. A. Coulter.	"	Defiance	232	166	136	8.44	10	26	Illegal.	
98042	10623	Hindman &	"	Shamrock	297	206	192	9.14	10	30	Passed.	
98043	10624	"	"	Club House	349	185	164	12.46	20	28	Passed.	
98044	10625	Wm. Green & Son	"	Gulf Port	525	327	198	11.29	18	58	Illegal.	
98045	10626	R. L. Elliott	"	Sunflower	346	170	176	6.11	9.37	10	59	Illegal.
98055	10627	Benner Grocery Co.	"	Headlight	315	177	188	10.27	10	48	Passed.	
98070	10639	C. M. Yates.	"	Anti-Trust	305	175	180	11.13	10	33	"	
98071	10640	W. H. Houser.	"	Pickwick	296	162	184	10.91	10	47	"	
98072	10641	Gambrell Department Store	"	Amarco	309	163	146	5.17	12.43	10	65	"
98075	10643	Lichty Bros.	Wellington	BarBQ	295	183	112	9.63	10	30	Illegal.	
98077	10644	"	"	Jettwood	335	208	132	4.78	11.08	10	40	Illegal.
98078	10644	J. M. Wyatt	"	Sheepshead	337	192	145	6.12	11.47	10	22	Illegal.
98079	10645	"	"	Lee	290	226	64	2.26	8.57	10	110	Passed.
98082	10646	Brookshire Bros	Winfield	Monogram	573	274	299	10.56	13.06	95	61	Passed.
98083	10676	John Coons.	Manhattan.	Rabbit Foot	578	292	284	10.39	11.21	95	61	Illegal.
98084	6753	L. R. Eakin.	"	Syrms	535	333	202	7.13	9.49	65	65	Passed.
98085	6758	J. E. Dewey	"	Bay Sides	607	347	260	9.17	10.70	65	65	Passed.
98086	6759	"	"	Sunburst	584	372	212	7.48	10.01	65	65	"
98087	6761	Harrison Cash Grocery	"	Belle of the South	502	294	208	7.84	10.97	65	65	"
98088	6762	"	"	Forest City	482	265	217	6.72	11.53	112	72	Passed.
98108	10777	Pittsburg Wholesale Grocery Co.	Pittsburg	"	265	148	117	4.13	10.46	10	72	Passed.
98109	10778	Glick Mercantile Co.	"	"	265	148	117	4.13	10.46	10	72	Passed.

To enable us to correlate roughly the percentage of nitrogen with the percentage of meat, a mince meat was prepared from a standard recipe; and preparations were also made using the other constituents in the same relative amounts, but using meat in larger and in smaller percentages than 10 per cent. Mixtures were also made containing wheat flour and rye flour. The stock of fruits to which the meat was added had the following composition:

Apples.....	1000 grams.	Brown sugar.....	500 grams.
Raisins.....	500 "	White sugar.....	500 "
Currants.....	250 "	Molasses.....	300 "
Citron.....	100 "	Cider vinegar.....	250 "
Suet.....	200 "		

One teaspoonful each of cloves, allspice and mace. Pepper and salt to taste.

The broth obtained from cooking the meat was also added to it. The meat used was lean and was boiled until tender, and ground through a meat grinder. Combinations were made as shown in the following table, which also includes a statement of the percentage of nitrogen found in each mixture:

No.	Meat.	Stock.	Flour.	Nitrogen.
1.....	15%	85%	.....	0.95%
2.....	12½	87½	.....	0.89
3.....	10	90	.....	0.765
4.....	7½	92½	.....	0.61
5.....	5	95	.....	0.52
6.....	2½	97½	.....	0.38
7.....	0	100	.....	0.22
8.....	0	90	10% of wheat.	0.345
9.....	5	90	5% of wheat.	0.625
10.....	0	90	10% of rye.	0.295
11.....	5	90	5% of rye.	0.55

It will be seen that the stock contained 0.22 per cent of nitrogen and that a mince meat containing 5 per cent of meat and 95 per cent of stock showed 0.52 per cent of nitrogen, while one containing 10 per cent of meat and 90 per cent of stock contained 0.765 per cent of nitrogen. The differences in the nitrogen content are so great that it seems quite evident that a rough judgment concerning the amount of meat present may be made by ascertaining the percentage of nitrogen.

Rye flour and wheat flour when added to the stock increase the percentage of nitrogen noticeably, though not to anything like the same extent as is produced by meat. In forming a judgment concerning the amount of meat present, however, one would need to take into consideration the fact of the presence or absence of flour.

Condensed mince meat is a food article that is made in as dry a state as is practicable, in order that it may be shipped and kept more conveniently. Any consideration of condensed mince meat

must be upon a basis of the prepared mince meat made from it when ready to put in pies. The directions for use vary somewhat with different brands. Nine and one-half or ten ounces of the condensed meat usually is directed to be added to water or such other fluid as may be desired. In the case of the Sunflower mince meat, ten ounces are to be added to one quart of water and then stewed fifteen or twenty minutes. A package of Pheasant brand mince meat (weight not stated) is to be added to one quart of water and stewed fifteen minutes or more. Other constituents may be added to suit the taste. Idlewild mince meat, nine and one-half ounces in package, is to be added to one quart of water and boiled twenty minutes. Fox Terrior brand mince meat is put up in packages of twelve ounces weight, and the user is directed to add the contents of the package to one quart of water and boil twenty minutes. None Such mince meat, with a guaranteed net weight of over eleven and one-half ounces per package, requires one quart of water for each package and cooking for twenty minutes, or the mince meat may be broken up and one and one-half pints of boiling water poured over it and the whole allowed to stand over night. In using Veribest Concentrated mince meat, six ounces are added to a little less than one pint of cider or water. Sugar and other flavoring may be added. A package of Old Home Condensed mince meat (weight not stated) is to be cooked for ten minutes with one quart of boiling water. Flavoring may be added. The directions for using Gilt Edge mince meat, nine and one-half ounces to the package, prescribe the use of one and one-half pints of water and stewing fifteen or twenty minutes. The directions for the use of other brands are very similar to these.

We have made no experiments to determine to what extent water is boiled off in the stewing, as it is evident that the results would be very different, depending upon conditions of stewing, especially the surfaces exposed in the vessel as compared with the depth of the contents.

A pint of water weighs sixteen and two-thirds ounces. One and one-half pints of water would weigh twenty-five ounces. If we suppose that in the stewing of mince meat made by the use of one quart of water to ten ounces of mince meat, one-half pint boils away, the product would weigh thirty-five ounces, of which ten was the condensed mince meat and twenty-five the weight of the water remaining. The weight of the condensed mince meat to that of the prepared mince meat is therefore 1:3, approximately.

Any consideration of analyses of condensed mince meat must be in connection with this fact.

The Kansas State Board of Health has recently adopted a standard for mince meat, which prescribes that "the meat present is in sufficient quantity so that the total nitrogen of the mince meat is not less than 50 per cent," and that "Condensed mince meat, when mixed with liquid, as directed on the label," conforms to this standard. In order that a condensed mince meat used in the ratio of one of condensed to three and one-half of finished mince meat may comply with these requirements, it must in the condensed state contain at least 1.75 per cent of nitrogen. The following table shows the results obtained in the analysis of samples of mince meat and condensed mince meat that have been examined in our laboratory:

SUGAR CORN.

It is difficult to form a judgment concerning a sample of canned corn, because of the great differences in different samples of the normal product. The value of the article depends greatly upon the quality of the raw material. Its appearance in the can is influenced by the method of preparation used. The flavor is liable to be modified by the addition of sugar, and a starchy thickener is sometimes added. These added materials being similar to substances naturally occurring in the corn, their positive detection is a matter of considerable difficulty. Some varieties of sugar corn have very large kernels, and in a somewhat mature state may be larger and coarser than some field corn. All of these considerations conspire to render difficult a judgment upon an individual sample. A general judgment as to the quality or palatability of the sample may be formed, but this is subject to influence by artificial as well as natural qualities which the sample exhibits.

Bulletin No. 151 of the Bureau of Chemistry, United States Department of Agriculture, by A. W. Bitting, treats of "The Canning of Foods" and devotes several pages to corn. This gives considerable valuable information concerning canned corn, and concludes with the following paragraphs, which may be taken as expert information concerning the characteristics that canned corn should exhibit:

"A can of fancy corn, upon opening, should be well filled (within three-eighths of an inch of the top), should be absolutely young and tender stock, medium moist, practically free from silk or bits of cob or husk, only slightly darker than natural or of a light golden-brown color, and have the distinctive young corn flavor. The weight of the contents should be about 21 ounces. If put up in 'Maryland style,' the kernels should be separate and the brine nearly clear, and the corn should weigh not less than 13.5 ounces, exclusive of the liquor.

MINCE MEAT.

Insp. No.	Serial No.	Brand.	MANUFACTURER.	Seller.	Per cent of N.	Remarks.
9719	5085		Sprague-Warner Co., Chicago, Ill.	J. C. Gaede, Fredonia.	0.206	Much starch. No preservative.
6996	5213		Cudahy Packing Co., Kansas City.	John Gates, Salina.	0.11	No preservative. Some starch.
9782	5214		Chas. Wolff Packing Co., Topeka.	John Gates, Salina.	0.66	No preservative. Some starch.
9725	5215	Kaw Valley.	Chas. Wolff Packing Co., Topeka.	Mrs. Mary Richt, Topeka.	0.235	No starch. No preservative.
70185	10635	Home Made.	Armour Co., Kansas City.	D. Johnson, Lindsborg.	0.32	Good condition. Some starch.
70186	10636	Mallard.	W. M. Hoyt & Co., Chicago.	J. W. Withers & Son, Fort Scott.	0.16	No starch.
70189	10638	Blissmark	Reid-Murdock & Co., Chicago.	Kaufman Grocery, Fort Scott.	0.12	No starch.
70189	10638	Standard	National Pickle & Can. Co., St. Louis.	C. D. Abbott, Fort Scott.	0.135	Starch.
6701	10639		A. S. Livermore, Chicago.	Purcell Trading Co., Manhattan.	0.38	Starch.
6702	10644	Kaw Valley.	Chas. Wolff Packing Co., Topeka.	John Coons, Manhattan.	0.41	Starch.
6703	10654	Richelleu.	Franklin McVaigh, Chicago, jobber.	L. R. Eakin, Manhattan.	0.458	Starch.
6706	10656	Heinz.	H. J. Heinz, Pittsburg, Pa.	J. F. Dewey & Co., Manhattan.	0.40	Cereal present.
6767	10657	Kuehne.	Otto Kuehne, Topeka.	Harrison Cash Grocery, Manhattan.	0.255	Cereal.
6760	10658	Old Style.	Ervin A. Rice, Chicago.			

CONDENSED MINCE MEAT.

Insp. No.	Serial No.	Brand.	MANUFACTURER.	Seller.	Per cent of N.	Remarks.
70033	5086	Fox Terrior.	Parker, Wilson Co., St. Joseph, Mo.	C. B. Brumbaugh, Sabetha.	0.456	No preservative. Much starch.
6966	5087	None Such.	Merrell-Soule Co., Syracuse, N. Y.	L. E. Arnold, Newton.	0.376	No preservative. Much starch.
5837	5088	Veribest.	Armour & Co., Kansas City.	Becker Bros., Newton.	0.27	Starch and sulphites present.
5858	5089	Old Home.	Ridenour-Baker Co., Kansas City, Mo. jobber.	Hamlin & Shelp, Newton.	0.42	Starch but no preservative.
5890	5090	Leading Star.	A. S. Livermore, Chicago.	Chas. Brunner, Newton.	0.396	No preservative. Starch.
6392	5210	Bear	Bliss Syrup Refining Co., Kansas City.	John Whalen, Lincoln.	0.39	No preservative. Starch.
6638	5211	Lee	H. D. Lee Merc. Co., Salina.	White H. Salina.	0.376	No preservative. Starch.
6694	5212	Monogram.	For Watson-Durand-Kasper Co., Salina.	Johnson Merc. Co., Salina.	0.27	No preservative. Starch.
9783	5216	None Such.	Merrell-Soule Co., Syracuse, N. Y.	Mrs. Mary Richt, Wichita.	0.396	No preservative. Starch.
10576	10576	Bear	Bliss Syrup Refining Co., Kansas City.	(Sent in by Mr. Tifford)	0.39	Starch.
10577	10577	None Such.	Merrell-Soule Co., Syracuse, N. Y.	J. W. Swisher, Fort Scott.	0.28	Starch.
70183	10633	Leading Star.	A. S. Livermore, Chicago.	J. W. Withers & Son, Fort Scott.	0.30	Starch.
70184	10634	Richelleu	Sprague, Warner & Co., Chicago.	W. H. Alsop, Fort Scott.	0.28	Rye flour present. Fruit only.
70187	10637	Leading Star.	A. S. Livermore, Chicago.	J. W. Withers & Son, Fort Scott.	0.40	Cereal present.
70208	10664	Snflower.	Dolan Merc. Co., Atchison, jobber.	Brerer-Shadel Merc. Co., Hiawatha.	0.29	Starch present.
70211	10752	Phoeas t.	Franklin, McVaigh & Co., Chicago.	Houston & Calkins, Hoyt.	0.515	Cereal binder.
70230	10752	Idlewild.	Davis Merc. Co., Topeka, jobber.	Guymon Petro Merc. Co., Hutchinson.	0.44	Starch present.
90140	10926	None Such (2 pkgs.).	Merrell-Soule Co., Syracuse, N. Y.	"	0.48	Starch present.
90141	10927	Mon-Tro (2 pkgs.).	W. H. Marvin & Co., Urbana, Ill.	"	0.45	Starch present.
10928	10928	Glit Edge (2 pkgs.).	Ervin A. Rice Co., Chicago.	(Sent in by Mr. Tifford)	0.55	Starch present.

"A can of standard corn should be well filled, reasonably tender, fairly bright color or slightly brown, and nearly free from silk, bits of cob or husk. The flavor should be characteristic of young sweet corn. If put up in 'Maryland style,' a part of the kernel may be somewhat hardened and the brine a little cloudy."

The "Maryland style" referred to is one in which the grains are cut from the cob as closely as possible and only the whole grains used, the kernels being kept separate. Corn packed as "cream corn," or "Maine style," has been cut less closely to the cob, and then the pulp left on the cob scraped and added, thus giving a creamy consistency.

Kansas has no standard for corn except the following, which presumably includes corn: "Canned vegetables are the sound product made from properly matured and prepared fresh vegetables, with or without sugar or salt; sterilized by heat, with or without previous cooking, in vessels from which they take up no metallic substance; kept in suitable, clean, hermetically sealed containers, and conform in name to the vegetables used in their preparation."

As we have no standards in respect to quality, in designating samples as "passed" or "illegal" attention has been directed chiefly to conformity with the label in respect to quantity and other specified particulars, but if the quality is obviously inferior to that which should be expected from the description, this fact is taken into account, and if the cans are not properly filled this factor is also included, whether a guaranty as to weight of contents is made on the can or not.

Insp. No. 70038, serial No. 5095. Badger State brand corn. Packed by P. Hobenadel, Jr., Packing Co., Rockford, Ill.; jobber, Nave-McCord Mercantile Co., St. Joseph, Mo.; seller, Burke Bros., Sabetha, Kan. Net weight, 21.1 ounces. Quality good, and in excellent condition. Sulphites absent. The sample was washed free from starch and other fine material through a Buchner funnel, and 260 grams remained on the funnel. The milky material that passed through was, therefore, 340 grams. This sample appeared to have about the same amount of starchy matrix as most of the canned corn. The label states that the can contains sweet corn, starch, sugar, and salt, and that it is high-grade pack.

When corn has this pulpy matrix it is impossible to form much judgment as to how much of this is due to added starch and how much comes from the corn. The standard for canned vegetables does not include added starch, and from that point of view this

sample and all others containing added starch would be illegal. This brand at least has the merit of bearing upon its label the statement that starch has been added, while undoubtedly many others in which the declaration is not made upon the label also contain added starch.

Insp. No. 70146, serial No. 10734. Sugar Corn; Beatrice brand. Manufactured by the Long Canning & Preserving Co., Beatrice, Neb.; jobber, Blue Valley Mercantile Co., Beatrice; seller, August Hohn & Sons, Marysville, Kan. Net weight, 20.1 ounces. Corn in good condition, but rather old and hard. Sample contained 79.55 per cent of water and 20.45 per cent of solids.

Insp. No. 70148, serial No. 10735. Sugar Corn; Clarion brand. Manufactured by Grimes Canning Co., Grimes, Ia.; jobber, Letts-Parker Grocery Co., St. Joseph, Mo.; seller, M. Barlow, Marysville, Kan. Label states: "Our Medium quality." Net weight, 21.2 ounces. Can corroded slightly. Kernels large, and corn apparently old and mature before canning. Sample contained: water, 76.68 per cent; solids, 23.32 per cent.

Insp. No. 70151, serial No. 10736. Sugar Corn; Little Blue Valley brand. Manufactured by the Standard Canning Co., Hanover, Kan., and sold by M. Flaherty & Son, Hanover. Net weight, 19.5 ounces. Can corroded slightly. Corn in good condition, but watery in appearance. Water, 82.20 per cent; solids, 17.80 per cent. Sample undoubtedly contains too much added water, and is not completely filled.

Insp. No. 70154, serial No. 10737. Sweet Corn; Badger brand. Packed by the Klindt-Geiger Canning Co., Cassville, Wis.; jobber, K. C. Wholesale Grocery Co.; seller, A. L. Lambert, Concordia, Kan. Net weight, 20.36 ounces. Can corroded slightly. Kernels very large, old and yellow. Looks like field corn. Contains 77.94 per cent of water and 22.06 per cent of solids.

Insp. No. 70155, serial No. 10738. R. P. M. C. Corn. Sold by A. L. Lambert, Concordia, Kan.; jobber, Parker Grocery Co., St. Joseph, Mo. Net weight, 20.8 ounces. Can corroded slightly. Corn of good quality and in good condition. Contains: water, 78.63 per cent; solids, 21.37 per cent.

Insp. No. 90154, serial No. 10845. Sugar Corn. Manufactured by Pacific Pea Packing Co., Chetek, Wis., and sold by Green & Son, Topeka, Kan. Sample consisted of two cans, the net weight of which were 20.5 and 20.25 ounces, respectively. Kernels large, well developed, and tough-skinned. Three worms found in one can and two in the other. Adulterated.

Insp. No. 90155, serial No. 10846. Sugar Corn; three P's brand. Manufactured by the Pacific Pea Packing Co., Chetek, Wis.; jobber, Letts-Baker Grocery Co., St. Joseph, Mo.; seller, Green & Son, Topeka, Kan. Two cans in sample, one weighing 20.37 ounces, and the other 20.25 ounces, and the kernels were large, tough-skinned, and many of them discolored. One can also contained a worm. Adulterated.

Insp. No. 90163, serial No. 10856. Sugar Corn; Maple Valley brand. Packed by Sac City Canning Co., Sac City, Ia.; jobber, McCord-Kistler Mercantile Co., Topeka; seller, Fritton Grocery Co., Topeka, Kan. Sample consisted of four cans, the average net weight of which was 20.56 ounces. Can corroded slightly, but contents in good condition. Contains: water, 75.53 per cent; solids, 24.47 per cent.

Insp. No. 90164, serial No. 10857. Sweet Corn; Premium brand. Packed by the Kelley Canning Co., Waverly, Ia.; jobber, McCord-Kistler Mercantile Co., St. Joseph, Mo.; seller, Fritton Grocery Co., Topeka, Kan. Three cans in sample, and the average net weight is 20.67 ounces. Corn in good condition, somewhat large, but clean, and contains 77.68 per cent of water and 22.32 per cent of solids.

Insp. No. 90167, serial No. 10858. Sugar Corn; Beauty brand. Distributed by Ridenour-Baker Grocery Co., Kansas City, Mo., and sold by Exchange Grocery Co., Topeka. Three cans in sample, and the average net weight was 20.9 ounces. Corn in good condition. Water present, 77.75 per cent; solids, 22.25 per cent.

Insp. No. 90168, serial No. 10859. Sugar Corn; Mound City brand. Put up by the Mound City Canning Co., Mound City, Mo.; jobber, The Symns Grocery Co., Atchison, Kan.; seller, Exchange Grocery Co., Topeka, Kan. Sample consisted of three cans, and the average net weight was 20.56 ounces. Corn in good condition, though the kernels were quite large and yellow. It is either field corn or old sweet corn. Water present, 75.25 per cent; solids, 24.75 per cent.

Insp. No. 90169, serial No. 10860. Sweet Corn; Oxford Club brand. Packed by Mt. Pleasant Canning Co., Mt. Pleasant, Ia.; seller, Dibble Grocery Co., Topeka, Kan. Three cans in sample, of which the average net weight was 19.39 ounces, and the analysis showed 77.47 per cent of water and 22.53 per cent of solids. No statement is made as to weight, but the cans weigh about one ounce short of what they should, and are not full enough. Corn is in good condition, though the kernels are rather large.

Insp. No. 90170, serial No. 10861. Sweet Corn; Tennis Girl brand. Packed by Mount Pleasant Canning Co., Mount Pleasant, Iowa, and sold by the Dibble Grocery Co., Topeka, Kan. Two cans in sample and average net weight was 20.18 ounces, which is a little short of the 20.5 declared on label. Kernels large, but in good condition. Analysis shows 77.5 per cent of water and 22.5 per cent of solids.

Insp. No. 90176, serial No. 10862. Sweet Corn; Marguerite brand. Packed by Gilman Canning Co., Gilman, Iowa; jobber, Ridenour-Baker Grocery Co., Kansas City; seller, Lannan & Lannan, Topeka, Kan. Two cans in sample, of which the net weight was 20.6 and 20.87 ounces, respectively, and analysis showed 76.85 per cent of water and 24.15 per cent of solids. Apparently "Extra Quality," as declared on label.

Insp. No. 90178, serial No. 10863. Sugar Corn; Mound City brand. Put up by Mound City Canning Co., Mound City, Mo.; jobber, Symns Grocery Co., Atchison, Kan.; seller, Whittelsey Mercantile Co., Topeka, Kan. Three cans in sample, and average net weight was 21.5 ounces. Analysis showed 74.2 per cent of water and 25.8 per cent of solids. Corn in good condition, but kernels large, yellow and mature.

Insp. No. 90179, serial No. 10864. Sweet Corn; Idlewild brand. Packed for the Davis Mercantile Co., Topeka, Kan., and sold by Whittelsey Mercantile Co., Topeka, Kan. Three cans in sample, with an average net weight of 20.75 ounces, and the analysis showed 75.63 per cent of water and 24.37 per cent of solids. Corn in good condition and looks like sweet corn.

Insp. No. 90180, serial No. 10865. Sweet Corn; Marguerite brand. Packed by the Gilman Canning Co., Gilman, Iowa; jobber, Ridenour-Baker Grocery Co., Kansas City; seller, Whittelsey Mercantile Co., Topeka, Kan. Two cans in sample, with average net weight of 20.88 ounces. Analysis showed 75.90 per cent of water and 24.10 per cent of solids. Corn in good condition, but kernels large and thick-skinned.

Insp. No. 20502, serial No. 10866. Sweet Corn; Oaks brand. Packed by Red Oak Canning Co., Red Oak, Iowa; jobber, Larson Bros., Kansas City, Kan.; seller, Taylor Grocery Co., Kansas City. Net weight 20.6 ounces, and analysis showed 76.47 per cent of water and 23.53 per cent of solids. Kernels large, but sample in good condition.

Insp. No. 20503, serial No. 10867. Sweet corn. Distributed by McManus-Heryer Brokerage Co., Kansas City, Mo.; jobber,

Ridenour-Baker Grocery Co., Kansas City; seller, Ofner & Manne Grocery Co., Kansas City, Kan. Net weight 21.1 ounces. Kernels very large, yellow and tough-skinned. Quality inferior. Analysis showed 75.65 per cent of water and 24.35 per cent of solids.

Insp. No. 20504, serial No. 10868. Sugar Corn, Mohawk brand. Packed by the Mohawk Canning Co., —; jobber, Gregory Grocery Co., Kansas City, Mo.; seller, A. Silverman, Kansas City, Kan. Net weight 21.25 ounces. Analysis showed 76.61 per cent of water and 23.39 per cent of solids. Corn of inferior quality; kernels large and yellow, and many of them discolored.

Insp. No. 90222, serial No. 11018. Sweet Corn; Dux brand. Packed by the P. Hohenadel, Jr., Co., Janesville, Wis.; jobber, Ryley-Wilson Grocery Co., Kansas City, Mo.; seller, A. Thomas & Co., Scranton, Kan. Two cans in sample, with average net weight of 21.25 ounces. Contained 77.36 per cent of water and 22.64 per cent of solids. Sample of very inferior grade.

Insp. No. 90241, serial No. 11019. Sugar Corn; Pride of Cassville brand. Packed by the Klindt-Geiger Canning Co., Cassville, Wis.; jobber, Kansas City Wholesale Grocery Co., Kansas City, Mo.; seller, Jones & Hart, Great Bend, Kan. Three cans in sample, with average net weight of 21 ounces. Analysis showed 79.95 per cent of water and 20.05 per cent of solids. Contents of two cans spoiled; the third in good condition.

Insp. No. 90242, serial No. 11020. Sweet Corn; Imperial Club brand. Packed by Waterloo Canning Corporation, Waterloo, Ia.; jobber, Kansas City Wholesale Grocery Co., Kansas City, Mo.; seller, Lundblade & Balinger, Great Bend, Kan. Two cans in sample, with average net weight of 21.68 ounces. Sample in good condition and contained 78.75 per cent of water and 21.25 per cent of solids.

The Summer School.

The attendance at the third session of the Summer School for Health Officers and Physicians, held at Kansas University, Lawrence, June 23 to 28, was larger than any previous year, the total registration being fifty-one, not including numbers of visitors who attended only a few lectures. The course provided by the faculty, program of which was issued about June 10, was exceptionally strong. Lectures by members of the faculty were all practical and in line with the works of the health officer, those of Professor

Boughton, with laboratory demonstrations, being exceptionally popular, and he never wanted for an attentive audience.

The failure of Doctor Kelly, of Washington, and Doctor Hurty, of Indiana, to be present, though unavoidable, was greatly disappointing, for their reputations as live wires had preceded them, and the audience was expectant of good things. However, the lectures presented by Doctors Lumsden and Rucker, of the U. S. Public Health Service; Dr. W. A. Evans, lecturer on preventive medicine at Northwestern University, Chicago, and Dr. Thos. R. Crowder, sanitarian for the Pullman Company, Chicago, were all live topics and the latest in scientific research and study, and were of intense practical interest. The entire series was a symposium on public health work, in the way of a Chautauqua, that might well be emulated as a program for state district medical societies. Some of these papers will be published in succeeding numbers of the BULLETIN.

The Kansas State Association of Public Health Officers held its tenth annual meeting and conference during the week, at which Dr. W. W. Nye, of Hiawatha, was elected president, and Dr. F. A. Garvin, Augusta, secretary. The organization is a growing one, and while its membership comprises only forty-two health officers, it makes up in enthusiasm what it lacks in numbers. It is regrettable that every health official in the state is not a working member, and the new officers hope to make them universally "to see the light." It is extremely significant that the majority of the most active and efficient health officers in the state are members of this enthusiastic body of workers.

Kansas has the reputation of leading in all forms of progressiveness. It is with considerable pride, therefore, that the University and the Board of Health received the compliment paid it by Doctor Evans, whose reputation in public health organization work is so well known as to require no comment, and who stated that the Summer School is the only practical institution of its kind in the United States. True, other states have annual conferences of health officials, but meetings are usually limited to discussion of papers, and are not schools of instruction, where actual demonstrations of sanitary work are performed. Aside from its value in its postgraduate and instructive features, its chief value to physicians and health officers lies in the broader view it gives of the new field of medicine—that of prevention. No health officer and no physician can attend this course without being impressed with the sense

of duty he owes his community and the public in general as a protective agent.

The practice of medicine in its present form considers only the individual. The spirit of preventive medicine—altruism, or even socialism in its broadest sense, if you wish—considers the rights of the community. Society rises above the individual, and the protection of its rights to health is the province of the health official. That this feeling pervaded the entire course of the 1913 session was very evident, and together with its practical discussions and exchange of views, it can be predicted without fear of contradiction that the counties and communities that were represented there will feel directly and substantially the results of its influence. Those health officers who were unable to attend were unfortunate. It can not be said some of them are not splendid officials, but it may be said that, however efficient they may be, that efficiency could not but be increased by the week's course, and it is to be hoped that next year will see the attendance doubled.

Honor in Print.

Add one more to the honor list of newspapers that close their columns to advertising swindles. Following the lead of the *Minneapolis Journal*, the *Wichita (Kan.) Beacon* comes out with a straightforward confession of past sins and promise of immediate reform. Its publisher, Mr. Henry J. Allen, declares flatly against the proposition that advertising space is merely merchandise to be sold to honest and dishonest advertisers alike, without moral responsibility on the part of the publication; a theory invented, we understand, by Beelzebub, the patron devil of frauds:

"The *Beacon* is going to make an effort hereafter to be responsible for the character of advertising which appears in its columns [runs the editorial announcement]. The paper will endeavor to educate the public to believe that what it sees in the news columns and in the advertising columns is alike worthy of serious attention as truthful statements."

A sound single standard of journalistic morals. Both reader and advertiser will profit by it; the former immediately, the latter eventually. Meantime the sturdy Kansas daily turns its back on more than \$10,000 a year of "easy money" by announcing specifically the exclusion of the advertisements of clairvoyants, fortune tellers, soothsayers, hypnotists, psychics, magnetic healers, quack medical practitioners of every variety, and fake sales of all kinds. There is a useful roster for any publisher, to be kept on file as an index expurgatorius.—*Collier's Weekly*, July 19, 1913.

Sound standard of morals? Well, yes. What man, for a consideration, even under the guise of advertising rates, likes to bear a reputation of "double-crossing" the people who are his friends and who depend upon his opinion and advice? Mr. Allen is one

of the pioneers of progressivism, and the newspaper readers in his area of circulation owe him every support. The BULLETIN commends his attitude to some of his contemporaries who are earnest exponents of Professor Samuels and others of that class, together with the timely injunction, "Go thou and do likewise."

Attention, Physicians and Health Officers.

Kansas has a compulsory tuberculosis-notification law. Every case of tuberculosis coming to the knowledge of any physician, whether under treatment or not, must be reported by that physician to the nearest health officer having jurisdiction. In all cases this is the county health officer, except in cities of the first class.

Immediately on receipt of that report the health officer mails to that physician a procedure blank asking the physician to take certain procedures and prosecutions on the premises of the patient, and to give that patient certain sanitary instructions as to the care of his room and person, and such other measures as may be necessary to prevent the spread of the infection among the patient's family, friends and the public.

If the physician is willing and able to give and carry out these instructions, will proceed to do so, and will certify to the health officer that he has done so, he is entitled to a fee of one dollar from the city or county general fund, and the health officer should immediately issue him an order on the city or county treasurer. If the physician is unable or unwilling to attend to these details he should so notify the health officer, whose duty it is then to attend to the reported case himself, and for which the health officer is entitled to the fee.

After the death, removal or recovery of a case of tuberculosis, the premises where the patient resided must be placarded to the effect that they must not be reoccupied until they have undergone thorough cleansing, fumigation and disinfection, under the direction of the health officer. This must be done at public expense, unless the family of the patient or the householder wish to bear the expense. In event of either death, removal or recovery, the health officer must be notified promptly, and a penalty is provided for not doing so.

The law provides for secrecy in the keeping of all tuberculosis records, and they are not open to the inspection of the public, as in the case of other contagious or infectious disease records. All reports are made to local health officers.

The State Board of Health has attempted to employ every facility for assisting physicians in the operation of the law. Cards and blanks have been furnished for all reports, and made as brief as possible, for obtaining all necessary data bearing on each case. All health officers should keep a good supply on hand, and physicians may obtain them from this source. All questions should be answered so completely that a nearly perfect history may be had of each case. This is important if valuable statistics are to be had.

In every case where the diagnosis is unmistakable, or in which the tubercle bacillus has been demonstrated, sputum cups and supplies will be furnished, on requisition of the physician, to the patient, free of charge, with the exception that carriage charges are to be paid by the patient. Unless otherwise ordered these will be sent to the physician, for it is expected that he will deliver them to the patient and demonstrate their uses.

A state bacteriologist is ready and willing to examine all specimens of sputa to determine the presence of tubercle bacilli in doubtful cases, and will make these examinations free of charge. Mailing tubes for these specimens may be had from health officers on application, or from State Bacteriologist, Dr. Sara E. Greenfield, 1105 West Tenth street, Topeka, Kan.

Health officers are reminded that the one dollar fee allowed for procedures should be paid promptly in every instance. City or county commissioners who demur to the payment have no option but to allow the item. The law is specific on that point. An order blank which meets their approval and that of the city or county treasurer should be devised to facilitate payment. Health officers are under bond, and there is no need of fear of misappropriation or mismanagement of funds, for they are responsible.

The law has been in operation four years. It is a regrettable fact that it does not receive the attention it deserves from either physicians or health officers. Instances in which physicians are repeatedly reminded of their failure to obey it have met with no successful improvement. This department wishes to be fair, and realizes that at times there may be extenuating circumstances in failure to report cases. But there is a limit to repeated flagrant violations, and this department has no option. The law imposes upon it the duty of law enforcement, and this will be followed whenever violations are brought to its attention in the future. The Board of Health prefers your coöperation without coercion, and trusts every individual physician will realize the duty he owes to the commonwealth without the necessity of penalizing him when he fails to recognize it. Are you with us, or will you be the first one to be prosecuted?

Special Warning.

The prolonged drouth has resulted in a shrinkage of the water supply of many cities of the state. As a result some communities have been compelled to use all available sources of supply, many of which have not been thoroughly investigated as to impurities and possible contamination. In such a crisis all waters should be looked upon with suspicion and every care taken to insure their purity and potability. A method of purification is published in this BULLETIN. Where the chlorinated lime is not available, *boil the water*. The latter is always a safe procedure.

Furthermore, investigate every possible source of contamination of water supply in use, and remove it. Take no chances on anything. Prevention of contamination of water is as important as its sterilization. Should a typhoid outbreak occur in any community in spite of precautions, the State Board of Health should have immediate notification, and will use every means to coöperate with local boards for the suppression of the disease.

Anterior Poliomyelitis.

Sporadic cases of infantile paralysis are occurring in various parts of the state. It is well for every physician to be on guard. This disease occurs in the summer months and epidemically in some communities. That it appears during the hot months and coincidentally with a plague of flies may be explained by reference to Doctor Rucker's article in the June BULLETIN, in which he relates the findings of Rosenau, Anderson and Frost, regarding the transmission of the infection through the medium of the *Stomoxys calcitrans*, or stable fly. These experiments emphasize the need of immediately cleaning up all garbage and manure heaps where these insects breed. All privy vaults or manure and garbage pits and all other possible breeding places should be freely sprinkled with a solution of one pound of chloride of lime to three gallons of water, and the sprinkling process repeated daily.

Every case should be quarantined and placarded, as in other cases of contagious disease, with the exception that members of the family who are not affected and who are compelled to continue usual occupations are not to be included in the quarantine. However, they should not attend public gatherings or places where they are brought in close contact with children. Parents of children

who have the disease have been demonstrated to be carriers of the disease in throat and nasal secretions. Prompt reports should be made to the nearest health officer, and special reports are requested, blanks for which will be forwarded as soon as this department has notice of the case.

The following measures are recommended:

"The patient should be isolated as completely as possible in a clean, bare room, well screened to keep out insects. Visiting should be interdicted, and only the necessary attendant should be allowed to come in contact with the patient. All discharges, including sputum, nasal secretions, urine, and feces, should be thoroughly disinfected, and special care should be taken that cups, spoons, remnants of food, etc., which may have become contaminated by the patient, are burned, scalded, or otherwise purified.

"Towels, bed linen and other fabrics should be boiled or dipped into a germicidal solution strong enough to destroy the typhoid bacillus. The nurse and physician should observe the same precautions regarding their hands and clothing as are recommended in attending a case of scarlet fever.

"The period of quarantine should be not less than three weeks—longer if nasal and throat discharges are profuse. Recent investigation would seem to indicate that some cases are carriers for periods of three and four months. Emphasis is again given regarding passive carriers, such as parents, nurses, and others, who may not develop the disease but are distributors of infection.

"Since the virus can be killed experimentally by a 1 per cent solution of peroxide of hydrogen, antiseptic washes, gargles, sprays, and nose washes of this solution are recommended to be used by the patient, the nurse, the physician and other members of the family. (The virus is also killed by a temperature of 40° to 50° C. in half an hour; also by comparatively weak disinfectants, such as a 1 to 500 solution of permanganate of potash, 1 per cent menthol in oil, or by a powder containing menthol 0.5 per cent, salol 0.5 per cent, boric acid 20 per cent.)

"In the presence of an epidemic, street and house dust should be kept down by sprinkling, oiling, or other means employed for this purpose. Dust should be allayed whether there is an epidemic of infantile paralysis or not. Children should be kept away from public gatherings, prohibited from using public drinking cups, and special attention given to diet to prevent gastro-intestinal disorders, for many a case of infantile paralysis starts with a digestive upset." (Rosenau)

FOOD ANALYSIS No. XLV.

By Prof. E. H. S. BAILEY, Ph. D., Chemist for the State Board of Health, and Director of the Chemical Laboratories, and OSCAR E. HARDER, M. A., Food Analyst.

JUNE 26, 1913.

The following report is based largely on the work done between April 20, 1913, and June 20, 1913:

APPLE BUTTER.

Insp. No. 9775. Apple Butter. Passed.

BEVERAGES.

Insp. No. 23X. Pop, Lemon Sour, Artificial Flavor and Color. Passed.

Insp. No. 43X. Label: "Cream of Hops. A Non Intoxicating Beer. Refreshing and Invigorating. A Great Health Drink. Sold only and guaranteed by the Temperance Beverage Company, Distributors, Chicago." This sample contained 1.65 per cent of alcohol by volume, and therefore could not be labeled "Non Intoxicating." Misbranded.

Insp. No. 20557. Label: "Top Ale. A Refreshing Beverage." Sold only by Geo. Grubel Bottling Works, Kansas City. Misbranded in that the place of manufacture is not stated.

Insp. No. 6686. Pop, Strawberry. Artificial flavor and color. Passed.

Insp. No. 6687. Pop, Orange Soda. Artificial flavor and color. Passed.

Insp. No. 6688. Pop, Lemon Sour. Artificial flavor and color. Passed.

Insp. No. 6689. Pop, Special Iron. Artificial flavor and color. Passed.

Insp. No. 6799. Label: "Presto. Absolutely Non Intoxicating." Manufacturer, C. W. Wells & Co., Kansas City, Mo.; retailer, C. W. Duley, Beloit, Kan. Alcohol by volume, 0.99 per cent. Misbranded.

CATSUP.

Insp. No. 70218. Catsup. Passed.

CANNED GOODS.

Insp. No. 90023. Label: "Canned Peas, Fancy June Peas, Mistle Oak Brand." Distributors, Bohart & Co., Clinton, Iowa; retailer, Ike Alford, Peru, Kan. Adulterated and misbranded, in

that the peas are either very mature peas or soaked peas, while the label claims "Fancy June Peas."

Insp. No. 70220. Canned Peas. Passed.

OIDER.

Insp. No. 9795. Label: "Apple Base Cider." Manufacturer, H. B. Allen Bottling Works, Wichita, Kan.; retailer, H. Kampling, Garden Plain, Kan. This sample shows that it was not over 65 per cent apple oider, and that it contained over 11 per cent of added glucose and was colored with a coal-tar dye. Adulterated and misbranded.

Insp. No. 9981. Label: "Apple Base Cider." Manufacturer, Allen Bottling Co., Wichita, Kan.; retailer, A. H. Lock, Norwich, Kan. Analysis shows that this sample did not contain more than 60 per cent of apple oider, and that it contained over 1.3 per cent of glucose. Adulterated and misbranded.

Insp. No. 90132. Label: "Apple Cider." Manufacturer, Los Angeles Fruit Products Co., St. Louis, Mo.; retailer, C. P. McCumber, Wichita, Kan. This sample contained 5.39 per cent of absolute alcohol by volume; 1.52 per cent of sugar (sucrose); 12.13 grams of reducing sugar per 100 cc. From the amount of ash in this sample, 0.22 per cent, the sample did not contain more than 85 per cent of apple cider, and therefore could not contain enough sugars to have produced 5.39 per cent of alcohol and still have had left a total of about 13½ per cent of sugar. Adulterated and misbranded.

Insp. No. 90133. Label: "Pure Apple Cider." Manufacturer, Los Angeles Fruit Products Co., St. Louis, Mo.; retailer, Pfister Cigar Co., Wichita, Kan. This sample contained 10.73 per cent of absolute alcohol by volume; 7.96 grams of reducing sugar per 100 cc. This sample also contained alcohol which was not exclusively the product of the fermentation of sugars contained in the apple juice. Contained added sugars. Adulterated and misbranded.

Insp. No. 90134. Label: "Apple Cider." Manufacturer, Los Angeles Fruit Products Co., St. Louis, Mo.; retailer, G. R. Ellis, Kiowa, Kan. Alcohol by volume, 6.32 per cent; reducing sugar in grams per 100 cc., 11.39. The amount of ash in this sample showed that it did not contain more than 85 per cent of apple oider, and from that fact it contained added sugar, and alcohol which was not exclusively the product of fermentation of sugars contained in the apple juice. Adulterated and misbranded.

Insp. No. 90152. Label: "Apple Cider." Manufacturer, Gast, Crofts & Co., Inc., Louisville, Ky.; retailer, E. W. Sprung, Hutchinson, Kan. Reducing sugar, 5.2 grams per 100 cc.; alcohol, 5.55 per cent. From the amount of ash, this sample contained added water and also alcohol which was not exclusively the product of fermentation of the sugars in the apple juice. Adulterated and misbranded.

EVAPORATED APPLES.

Insp. No. 70241. Label: "Evaporated N. Y. Apples." Manufacturer, T. W. Gordon, Peoria, N. Y.; retailer, J. A. Smith, Eureka, Kan. Contained sulphur dioxide, which was not stated on the label. Adulterated and misbranded.

COCOANUT.

Insp. No. 70259. Label: "Shredded Coconut." Distributer, Franklin MacVeagh & Co., Chicago; retailer, Scott-Embree Grocery Co., El Dorado, Kan. Contained 12.2 per cent of sucrose; contained added sugar not stated on the label. Adulterated and misbranded.

FLAVORS AND EXTRACTS.

Insp. No. 7957. Label: "Flavor Extract, Imitation Banana." Manufacturer, Eagle Laboratories, St. Louis and Denver; retailer, Henry Krug, Hoisington, Kan. Short measure, $6\frac{1}{2}$ per cent.

Insp. No. 6791. Orange Extract. Passed.

Insp. No. 70205. Orange Extract. Passed.

Insp. No. 6750. Label: "Lemon Flavor, Artificial Color." Manufacturer, The Ennis-Hanly-Blackburn Coffee Co., Kansas City; retailer, J. L. Messenger, Lawrence, Kan. No lemon oil by precipitation. Artificially colored with a coal-tar dye. Adulterated and misbranded.

Insp. No. 6780. Lemon Extract. Passed.

Insp. No. 6789. Lemon Extract. Passed.

Insp. No. 6792. Label: "Lemon Extract." Manufacturer, Douglas Candy Co., St. Joseph, Mo.; retailer, W. F. Finner, Kirwin, Kan. Lemon oil by precipitation, a trace. Below standard.

Insp. No. 70139. Lemon Flavor. Passed.

Insp. No. 70202. Label: "Extract of Lemon." Manufacturer, J. H. Brown & Co., Atchison, Kan. Oil by precipitation, none. Adulterated and misbranded.

Insp. No. 70204. Lemon Extract. Passed.

(Continued in the August Bulletin.)

Why Blame Providence?

How long will it be before the usual resolutions of condolence, which now begin "Whereas, it has pleased our Heavenly Father to remove from our midst our beloved Brother or Sister ———, who surrendered this life after a long illness from typhoid fever," shall be changed to read, "Whereas, another case of criminal negligence has occurred in this community, through the death of Mr. or Mrs. ———, resulting from the drinking of water from a polluted public supply. A coroner's jury has affixed the blame on certain careless private parties and some public officials, and recommends they be held for manslaughter. The county attorney has determined such shall not occur again, and will push prosecution."

This is the headline in case of automobile accidents—why not in the latter instance? It's a poor rule that fails to work both ways. Anyhow, why blame the Lord? He has enough charged to him by short-sighted and unthinking mankind.

Typhoid Drinking Water.

One of the greatest dangers of the summer vacation is the summer typhoid. People in the cities or elsewhere where the quality of their drinking water is unquestionable, and where some attention is paid to the matter of flies, fall ready victims to summer or vacation typhoid when they go to our various summer resorts, where the sewage and drinking water are too closely related, and where the flies and food are intimately associated. Either of such combinations is a dangerous proposition. No one knows just how much of our summer typhoid is due to bad water or how much is due to flies.

Now, as to the water question. If there is the slightest doubt as to the quality of the water, the following simple remedy will make it safe: Get a one-pound metal can of chloride of lime, or bleaching powder. Take a level teaspoonful of powder and a few drops of water, and make a thin, smooth paste in a teacup. Then dilute this paste with four cupfuls of water. Place this stock solution in a clean, stoppered bottle and keep corked tight.

This is enough to disinfect 250 gallons of water. Use a teaspoonful of this stock solution to two gallons of water. Stir well, and use in from a quarter to half an hour. If the water has a slight

odor of chlorine, use slightly less of the stock solution. Find out how much stock solution it takes to give a slight odor to the water, then use about one-fourth less than the quantity necessary to produce odors.

Water thus treated is absolutely harmless. The chloride of lime is consumed by the water in ten or fifteen minutes, and even if it were not, in such small quantities it would be harmless.

Fresh stock solution should be made every three or four days, and the powdered lime should be kept in a tightly closed can.

There is little excuse for flies, even in summer resorts. The only practical damage done by flies is in polluting food and milk. They can be screened out of kitchens, dining rooms and cook shacks with little expense. Many summer landlords can not be made to appreciate this, but if, with a suggestion or two, good screens are not forthcoming, the best plan is to patronize the other resort. It will be the cheapest in the long run.

In 1912 there were 345 deaths from typhoid fever in Kansas, or 20 for every 100,000 of population. Compared to the 33.8 for every 100,000 in the registration area of the United States, that isn't as bad as it might be; but considering our scattered and rural population, it is far too high. Shall we go on in self-satisfied complacency, or shall we unite to cut it lower? Let's get busy and make Kansas the safest state in the Union to live in.

The fly,
Your negligence,
Poor water,
Half-way precautions,
Old carriers,
Infected food,
Dirty fingers,
Fully justify
Every doubt that
Very few
Ever completely
Respect sanitation.

Thirty Babies Die Every Minute.

Of the 55,000,000 babies born every year, 15,000,000 of them die before they are a year old, according to the statement of Edward B. Phelps at the International Congress on Hygiene and Demography in Washington last fall. This means that 40,000 babies die every day, and the United States contributed 1,000. In Sweden and Norway, where nearly all babies are breast-fed, the infant mortality is smallest.

Dr. William H. Davis, of Boston, said that the deaths of infants would be decreased 60 per cent if no babies were fed from a bottle. Other speakers said that half of the infant mortality is preventable.

Keep your children away from animals of all kinds. Every cat and every dog travels about, collecting disease germs. The fur of these animals gathers up disease germs as a broom gathers up dirt.—*Bulletin North Carolina Board of Health.*

The baby.

We all love him.

But do we always protect him?

We think we do, but figures prove we do not.

Sixteen and three-tenths per cent of all deaths in Kansas, or 2804, were babies under one year of age.

Fully 90 per cent of these deaths, or 2500, were from preventable disease.

Four and four-tenths per cent, or 756, were due to diarrhæal and digestive disorders, practically all preventable.

Two thousand five hundred little white monuments stand in Kansas cemeteries accusing us of negligence and ignorance. Shall their warnings be wasted? Let's begin right now to prevent a duplication of last year's record.

Clean milk, pure water, freedom from flies, light dressing, fresh air and sunshine, regular feeding and sleeping hours—these are the factors which prevent undertaking bills and stop the sale of the "little, short coffins."

Why get excited over horse meningitis and hog cholera when we note complacently the deaths of 2500 helpless babies every year.

A Prayer for the Babies.

O God, since Thou has laid the little children into our arms in utter helplessness, with no protection save our love, we pray that the sweet appeal of their baby hands may not be in vain. Let no innocent life in our city be quenched again in useless pain through our ignorance or sin. May we who are mothers or fathers seek eagerly to join wisdom to our love, lest love itself be deadly when unguided by knowledge. Bless the doctors and nurses, and all the friends of men, who are giving of their skill and devotion to the care of our children. If there are any who were kissed by love in their own infancy, but who have no child to whom they may give as they have received, grant them such largeness of sympathy that they may rejoice to pay their debt in full to all children who have need of them.

Forgive us, our Father, for the heartlessness of the past. Grant us great tenderness for all babes who suffer, and a growing sense of the divine mystery that is brooding in the soul of every child. Amen.—WALTER RAUSCHENBUSCH, *The Survey*, September 7, 1912.

Our hot weather maxims: Eat less, drink more water, bathe frequently, stop fretting, and wear as little clothing as Kansas laws permit. (In view of prevailing modes, the latter comment is superfluous for feminine readers.)

If thou wouldst do well any useful thing, spare not labor, nor think a lifetime long.—*Bishop Spalding*.

Man's life means tender teens, teachable twenties, tireless thirties, fiery forties, forcible fifties, serious sixties, sacred seventies, aching eighties, shortening breath, death, the sod, God.—*Joseph Cook*.

THE USES OF A QUARANTINE SIGN.

During a dangerous epidemic in a small western town every infected house was put under quarantine. After the disease had been checked the health officers were taking down the quarantine signs, when an old negress protested bitterly against their action.

"Why, Auntie," said an officer, "why don't you want me to take that sign down?"

"Well, sah," was the reply, "dey ain' be'n a bill collectah neah dis house sence dat sign went up. You-all let it alone."

The Bug Hunters.

(Sanitary Division).

Oh, they chase the wary skeeter to his lair
And they slay him by the million then and there,
And the chigger and the gnat
And the young domestic rat,
Well, they just exterminate 'em everywhere.

Oh, they fill the stagnant marshes full of oil!
And the peace of the tarantula they spoil,
And they go around and make
Life unpleasant for the snake
Who so often in our boudoirs used to coil!

And they enter in the native's humble cot
And they scrub and fumigate him on the spot,
For though picturesque, perhaps,
As are other native chaps,
Is the Spiggoty hygienic—he is not!

Yes, the sanitary people lead a life
Which is fifty-nine varieties of strife,
For they deal with white and brown,
In the jungle and the town
And with Mistah Cullud Person—and his wife!

So we boost for Colonel Gorgas and his crew
Who have blotted yellow fever out of view,
Who have changed a deadly port
To a blooming health resort,
Which is something people said they could n't do!

—Berton Braley, in *Popular Magazine*.

WHAT CONSTITUTES SUCCESS?

"He has achieved success who has lived well, laughed often and loved much; who has gained the respect of intelligent men and the love of little children; who has filled his niche and accomplished his task; who has left the world better than he found it; who has always looked for the best in others and given the best he has; whose life was an inspiration, whose memory is a benediction.—Mrs. E. J. Stanley, Lincoln, Kan.

The good Lord blessed us with two ears and one mouth. Draw your own conclusions.

The Kansaic Law.

1. Thou shalt love Kansas with all thine heart, boost it with all thy breath and cultivate its fertile acres with all thine understanding, likewise SWAT THE FLY.

2. Thou shalt not expectorate upon any sidewalk nor upon thy neighbor's porch, neither shalt thou eject any spittle in any public place or vehicle of transportation, for the public health is a Pearl of Great Price and must be conserved. For this reason, also, SWAT THE FLY.

3. Thou shalt not commit adulterated foods into the hands of thy brother when he is an hungered, for Coal Tar coloring is an abomination and Benzoate of Soda worketh evil to any man's belly. All things do in moderation, except when you SWAT THE FLY.

4. Thou shalt keep thy vows when thou goest into Politics, likewise hold thy tongue as to promises, for the Kansas voter has a fearful and wonderful memory, and the files of the newspapers shall never perish from off the face of the earth.

5. Honor thy father and thy mother, for without them Kansas would still be a barren waste and thou wouldst not have thy "Benzine Buggies," nor thy herds of Short Horns or thy many—fields of alfalfa. But remember that for all these things thou shalt be held accountable, so SWAT THE FLY.

6. Thou shalt Swat the Fly—yea with the swatter and with poison shalt thou encompass his destruction and with Tanglefoot shalt thou ensnare his feet, so that he goeth no more from the manure pile to the baby's crib, bearing disease and death. In the morning when thou goeth forth, Swat the Fly; in the heat of the day, when thou resteth for a brief spell, Swat thou the Fly; and in the cool of the evening, when thou both art weary after thy day's work, even then do thou plot his destruction.

7. Thou shalt not give to thy neighbor strong drink lest ye both be damned. Say thou rather to him, "Go thou to Missouri and get thine own souse in thine own way." In this manner wilt thou fulfill the law and save thine own supply at the same time.

8. When thou goest into an inn, thou shalt say to the keeper thereof, "Hast thou nine-foot bed sheets, individual towels and private drinking cups?" and if he sayeth nay, then shalt thou flee from the place, for the wrath of the state shall be upon his head, and thine own as well, if thou goest in and abide with him. It is far better for thee to sleep in a barn, and Swat the Fly, than to abide in a public place that cometh not up to the specifications of the Board of Health.

9. Thou shalt not listen to the man who peddleth "Blue Sky," neither shalt thou lend thine influence to any man who seeketh to sell thy neighbor a "Gold Brick," for as between the man who dealeth in unregistered securities and the man with a millstone about his neck, the best bet is on the latter.

10. Thou shalt not walk in the path of the "Knocker," nor stand in the stall of the "Standpatter," nor sit in the seat of the "Doubter," for Kansas is a great state (you betcher life) and within her borders are to be found all the Health and Happiness, Peace, Prosperity and Politics that is coming to you this side of the Promised Land.—O. D. O'Kieffe, Topeka, in Topeka Capital, July 26, 1918.

BULLETIN

OF THE

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VOL. IX

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Cigar Cutters.

A NOTE REGARDING THE POSSIBLE DANGER OF THEIR USE IN COMMON.

The attention of the bureau has been invited to the danger of the spread of disease through the automatic cigar cutter which one finds so commonly on the counters of cigar stores, drug stores and other places where cigars are sold. It is a habit among many cigar smokers on purchasing a cigar to place it between their lips while paying for the purchase, the smoker then putting the moist end of the cigar in the cutter. This would seem to be a very effective method of bringing about the interchange of mouth secretions, and possibly the spread of infection. It is suggested that the use of such automatic cigar clippers should be avoided by the public because of the possibility that disease may be spread by them by reason of the nature and manner of their use.—*Public Health Reports, July 11, 1913.*

VITAL STATISTICS

Reported to the State Board of Health for July, 1913.

CONTAGIOUS AND INFECTIOUS DISEASES.

COUNTY.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.
The State, totals.....	149	9	14	1	39	1	41	1	71	0
July, 1912.....	119	9	20	1	67	1	18	0	71	0
Allen.....	1	0	1	0	0	0	2	0	0	0
Anderson.....	0	0	0	0	3	0	0	0	0	0
Atchison.....	0	0	0	0	0	0	0	0	0	0
Barber.....	2	0	0	0	0	0	0	0	0	0
Barton.....	0	0	0	0	0	0	0	0	0	0
Bourbon.....	0	0	0	0	0	0	0	0	0	0
Brown.....	1	0	0	0	0	0	1	1	0	0
Butler.....	7	0	0	0	0	0	0	0	16	0
Chase.....	3	0	0	0	0	0	0	0	0	0
Chautauque.....	2	0	1	0	0	0	0	0	4	0
Cherokee.....	0	0	0	0	0	0	2	0	0	0
Cherokee.....	0	0	0	0	0	0	0	0	1	0
Cherokee.....	0	0	0	0	0	0	0	0	0	0
Clark.....	1	0	0	0	0	0	0	0	0	0
Clay.....	0	0	0	1	0	0	0	0	0	0
Cloud.....	0	0	0	0	0	0	0	0	0	0
Coffey.....	0	0	0	0	0	0	0	0	0	0
Cornmanche.....	0	0	0	0	0	0	0	0	0	0
Cowley.....	1	0	0	0	0	0	0	0	0	0
Crawford.....	0	0	1	0	0	0	4	0	0	0
Decatur.....	0	0	0	0	0	0	0	0	0	0
Dickinson.....	0	0	0	0	0	0	0	0	1	0
Doniphan.....	4	0	0	0	1	0	0	0	0	0
Douglas.....	1	0	0	0	0	0	0	0	0	0
Edwards.....	1	0	0	0	0	0	0	0	0	0
Ellis.....	0	0	0	0	0	0	0	0	0	0
Ellsworth.....	1	0	0	0	0	0	0	0	0	0
Finney.....	0	0	0	0	0	0	0	0	0	0
Ford.....	0	0	0	0	0	0	0	0	0	0
Franklin.....	2	0	0	0	0	0	0	0	0	0
Geary.....	0	0	0	0	0	0	0	0	0	0
Gove.....	0	0	0	0	0	0	0	0	0	0
Graham.....	0	0	0	0	0	0	0	0	0	0
Grant.....	0	0	0	0	0	0	0	0	0	0
Gray.....	7	0	0	0	0	0	0	0	0	0
Greeley.....	3	0	0	0	1	0	0	0	0	0
Greenwood.....	0	0	0	0	0	0	0	0	0	0
Hamilton.....	3	0	0	0	0	0	0	0	0	0
Harper.....	0	0	0	0	0	0	0	0	0	0
Harvey.....	2	0	0	0	0	0	0	0	0	0
Haskell.....	0	0	0	0	0	0	0	0	0	0
Hodgeman.....	4	1	0	0	0	0	0	0	0	0
Jackson.....	1	1	0	0	0	0	0	0	0	0
Jefferson.....	1	0	0	0	0	0	0	0	0	0
Jewell.....	0	0	0	0	0	0	0	0	0	0
Johnson.....	0	1	0	0	0	0	0	0	0	0
Kearny.....	0	0	0	0	0	0	0	0	0	0
Kingman.....	0	0	0	0	0	0	0	0	0	0
Kiowa.....	0	0	0	0	0	0	0	0	0	0
Labette.....	7	0	0	0	0	0	1	0	0	0
Lane.....	0	0	0	0	0	0	0	0	0	0
Leavenworth.....	0	0	0	0	3	0	2	0	0	0
Lincoln.....	0	0	0	0	0	0	0	0	0	0
Linn.....	0	0	0	0	0	0	0	0	0	0
Logan.....	5	0	0	0	1	0	2	0	2	0
Lyon.....	5	0	0	0	0	0	4	0	0	0
Marion.....	3	0	2	0	0	0	0	0	1	0
Marshall.....	5	0	0	0	0	0	0	0	0	0
McPherson.....	5	0	0	0	0	0	0	0	0	0
Meade.....	0	0	0	0	0	0	0	0	0	0

* No report from health officer.

CONTAGIOUS AND INFECTIOUS DISEASES—Concluded.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths..	Cases...	Deaths..	Cases...	Deaths..	Cases...	Deaths..	Cases...	Deaths..
Miami.....	0	0	0	0	0	0	0	0	0	0
Mitchell.....	0	0	0	0	0	0	0	0	0	0
Montgomery.....	4	0	0	0	0	0	1	0	0	0
Morris.....	0	0	0	0	0	0	5	0	0	0
Morton.....	0	0	0	0	0	0	0	0	2	0
Nemaha.....	0	0	0	0	0	0	0	0	5	0
Neosho.....	1	0	0	0	0	0	9	0	2	0
Ness.....	0	0	0	0	0	0	0	0	0	0
Norton.....	2	0	0	0	0	0	0	0	0	0
Osage.....	0	0	0	0	0	0	0	0	0	0
*Osborne.....										
*Ottawa.....										
Pawnee.....	1	0	0	0	0	0	0	0	0	0
Phillips.....	0	0	0	0	2	0	0	0	0	0
Pottawatomie.....	0	0	0	0	1	0	0	0	14	0
*Pratt.....										
Rawlins.....	0	0	0	0	0	0	0	0	0	0
Reno.....	2	0	0	0	1	0	0	0	0	0
Republic.....	0	0	0	0	0	0	0	0	0	0
Rice.....	1	0	0	0	3	0	0	0	0	0
Riley.....	2	0	0	0	0	0	0	0	0	0
Rooks.....	0	0	0	0	0	0	0	0	0	0
Rush.....	2	0	0	0	0	0	0	0	4	0
*Russell.....										
Saline.....	1	0	0	0	1	0	0	0	0	0
Scott.....	0	0	0	0	0	0	0	0	0	0
Sedgwick.....	0	0	0	0	0	0	0	0	0	0
Seward.....	2	0	1	1	0	0	0	0	2	0
Shawnee.....	0	0	0	0	0	0	0	0	0	0
Sheridan.....	0	0	0	0	0	0	0	0	0	0
Sherman.....	0	0	0	0	0	0	0	0	0	0
Smith.....	2	0	0	0	0	0	0	0	0	0
*Stafford.....										
Stanton.....	0	0	0	0	0	0	0	0	0	0
Stevens.....	0	0	0	0	0	0	0	0	0	0
Sumner.....	8	1	0	0	2	0	0	0	6	0
Thomas.....	0	0	0	0	0	0	0	0	0	0
Trego.....	2	0	0	0	0	0	0	0	0	0
Wabaunsee.....	4	1	0	0	0	0	0	0	0	0
Wallace.....	0	0	0	0	0	0	0	0	0	0
Washington.....	0	0	0	0	0	0	0	0	0	0
Wichita.....	1	0	0	0	0	0	0	0	0	0
Wilson.....	2	0	0	0	1	0	0	0	0	0
Woodson.....	0	0	0	0	0	0	3	0	0	0
Wyandotte.....	0	0	0	0	0	0	0	0	0	0
Cities:										
Atchison.....	0	0	0	0	0	0	0	0	0	0
Coffeyville.....	4	0	0	0	1	0	0	0	0	0
Fort Scott.....	10	1	0	0	0	0	0	0	1	0
Hutchinson.....	2	2	0	0	2	0	0	0	0	0
Independence.....	0	0	0	0	0	0	0	0	0	0
Kansas City.....	6	0	1	0	1	0	0	0	8	0
Lawrence.....	0	0	0	0	0	0	0	0	0	0
Leavenworth.....	1	0	3	0	0	0	0	0	1	0
Parsons.....	2	0	1	0	11	0	1	0	0	0
Pittsburg.....	10	1	0	0	8	0	0	0	0	0
Topeka.....	0	0	2	0	0	0	2	0	0	0
Wichita.....	3	0	0	0	0	0	1	0	0	0

* No report from county health officer.

DIVISION OF VITAL STATISTICS.

W. J. V. DEACON, State Registrar. S. G. THOMPSON, Chief Clerk.

Notice to Township and City Clerks.

Section 1, chapter 306, Session Laws of 1913, provides that the city clerk of each incorporated city shall be the local registrar of vital statistics of such city and the township in which such city is located. The township clerk shall be local registrar of such townships wherein no incorporated city is located, and shall issue burial permits and receive birth certificates for their respective districts.

All township clerks who are to assume the duties of local registrars have been furnished with the necessary supplies, and should start immediately to look after the reports of births and deaths in their townships.

It would seem from letters which have been received that some township clerks are not clear as to the requirements of the law. All birth and death reports should be registered in the Birth and Death Record Books, and the date of filing inserted in the lower corner of the certificate, together with the registrar's signature.

At the end of the month, or not later than the 4th day of the following month, you should fill out a Local Registrar's Statement of Returns, listing the number of birth and death certificates you are enclosing, and send the same to the state registrar, with all birth and death certificates filed with you during the month. Do not hold your report longer than the 4th day of the month for any reason. If you know of reports that are out, go after them, but do not hold your report because some one else is slow.

The Birth and Death Record Books are to be kept in your possession as your record of reports you have forwarded. Do not send these books to the state registrar.

It is a violation of section 5 to move or inter a body without first obtaining a burial or removal permit, and you have no authority to issue a burial or removal permit without first receiving a death certificate properly filled out.

If you have been appointed subregistrar for a man in an adjacent or near-by district you can issue burial permits in accordance with regulation 20 in the back of the Vital Statistics Law Book, but you have no authority to issue burial permits for deaths other than those that occur in your own district unless you have been so appointed.

Birth reports should be made out on the standard certificate, and should not be held for the name of the child; send in the certificate with your report, and when the child is named send in a supplemental report of birth, giving the name, and it will be attached to the original certificate on file here.

You should receive a birth certificate for every birth that occurs in your district. In those cases where there is no attending physician or midwife, "then it shall be the duty of the father or mother of the child, householder or person in charge of the property, manager or superintendent of

public or private institutions in which the birth occurred, to notify the local registrar, within ten days after the birth, of the fact that such birth occurred." (See section 10.)

Do not fail to put your district number on the outside of the package containing your monthly report. Your district number should also appear on all correspondence and papers you send to the state registrar.

When a body is shipped into your district for interment take up the transit permit attached to the box and issue a local burial permit therefrom, retaining the transit permit in your file as your authority for so doing. Do not send in death certificates for bodies that are shipped into your district by common carrier.

Every intelligent citizen realizes the importance of the vital statistics law and what it will mean to coming generations. If we have the honest effort and coöperation of the local registrars, physicians and undertakers, there is not a doubt but what the state of Kansas will have as good a record as any state in the Union.

House Infection.

House infection as a cause of the spread of tuberculosis is discussed in a study of "Deaths from Tuberculosis in the Fifth Ward (Philadelphia) during a Period of Forty-seven Years," by Dr. Frank A. Craig, which appeared in the *American Journal of Public Health*.

From the data available, Doctor Craig concludes that house infection is "one of the most fruitful sources of infection." He declares that 78 per cent of the houses in the fifth ward of Philadelphia show evidence of having harbored one or more cases of tuberculosis. He finds that 11.2 per cent of the total deaths in forty-seven years (2248) occurred in a very small proportion of the houses in the ward, 3.6 per cent, and that these latter dwellings averaged 4.96 deaths per house.

Inasmuch as the period covered (1863-1910) was so long, an arbitrary limit was made as to the time within which a death might occur as a result of infection from a fatal case of tuberculosis in the same house. This limited period was set at four years. Out of the 2248 deaths in forty-seven years, 353, or 15.7 per cent, occurred within this period of four years following a previous death in the same house.

Judging by the data available, Doctor Craig concludes:

"In other words, 15.7 per cent of all deaths in forty-seven years were possibly due to house infection. Of the 353 cases, sixty-two were apparently related. Omitting these, we still have a percentage of 12.9. Of the 540 cases occurring in houses in which a previous death had occurred, 65.3 per cent of them came within the four-year period."

DIVISION OF FOOD AND DRUGS.

J. F. TILFORD, PH. C., Assistant Chief Food and Drug Inspector.
E. H. S. BAILEY, PH. D., L. E. SAYRE, PH. M., J. T. WILLARD, M. S., Directors of the
Laboratories.

FOOD ANALYSIS No. XLV—Concluded.

By Prof. E. H. S. BAILEY, Ph. D., Chemist for the State Board of Health, and Director of the
Chemical Laboratories, and OSCAR E. HARDER, M. A., Food Analyst.

JUNE 26, 1913.

The following report is based largely on the work done between
April 20, 1913, and June 20, 1913:

FLAVORS AND EXTRACTS.

Continued from page 138, July BULLETIN.

Insp. No. 7956. Label: "Flavoring Extract, Imitation Pineapple." Manufacturer, Eagle Laboratories, St. Louis and Denver; retailer, Henry Krug, Hoisington, Kan. Short weight.

Insp. No. 7956C (33X). Pure Fruit Pineapple. Passed.

Insp. No. 7956D. Extract Pineapple. Passed.

Insp. No. 20133. Extract Pineapple. Passed.

Insp. No. 7736. Imitation Raspberry Flavor. Passed.

Insp. No. 7748. Extract Raspberry. Passed.

Insp. No. 7956E. Extract of Raspberry. Passed.

Insp. No. 70140. Extract of Raspberry. Passed.

Insp. No. 7956F (33X). Extract of Strawberry. Passed.

Insp. No. 70193. Extract of Strawberry. Passed.

Insp. No. 20459. Label: "Res-Ola Vanilla." Manufacturer, Parker & Brown Co., Ft. Worth, Tex.; retailer, Miller Drug Co., Junction City, Kan. Below standard. Colored with caramel.

Insp. No. 20472. Extract Vanilla. Passed.

Insp. No. 20494. Label: "Essence Vanilla." Manufacturer—clerk did not know source of it; retailer, Red Cross Pharmacy, Kansas City, Kan. Basic lead number, 0.53. Resins, absent; caramel, present. Below standard.

Insp. No. 70089. Label: "Extract Vanilla." Manufacturer, Thompson-Taylor Spice Co.; distributors, Kansas City Wholesale Grocery Co. Below standard.

Insp. No. 70091. Label: "Ext. Vanilla." Manufacturer, Miller Manufacturing Co., New York; bottlers, Blue Rapids Bottling Works, Blue Rapids, Kan. Resins, absent; caramel, present. Below standard.

Insp. No. 70091A. Same as No. 70091.

Insp. No. 80298. Extract Vanilla. Passed.

Insp. No. 9614. Imitation Vanilla Flavor. Passed.

Insp. No. 9617. Label: "Oleo-de-Vanil." Manufacturer, R. Hardesty Manufacturing Co., Denver, Colo.; retailer, Earl Boggs, Concordia, Kan. Resins, absent; caramel, present. Lead number below normal. Below standard.

Insp. No. 90119. Extract of Vanilla. Passed.

Insp. No. 90128. Label: "Imitation Flavor of Vanilla." Manufacturer, Steinwender-Stoffregen Coffee Co., St. Louis, Mo.; retailer, Western Pacific Tea Co., Wichita, Kan. Artificially colored with caramel. Does not conform to standard.

Insp. No. 90135. Extract of Vanilla. Passed.

Insp. No. 90162. Extract of Vanilla. Passed.

FIGS.

Insp. No. 90219. Figs. Passed.

OLIVE OIL.

Insp. No. 80277. Olive Oil. Passed.

PEANUTS.

Insp. No. 90227. Peanuts. Classed second grade. Passed.

RAISINS.

Insp. No. 70216. Label: "Sun-Kist Seedless Raisins." Manufacturer, J. K. Armsby Co., Cal.; retailer, S. Braumbaugh, Sabetha, Kan. Contained sulphur dioxide, and not so labeled. Adulterated and misbranded.

RICE.

Insp. No. 70110. Label: "McFaddin Apex Brand Unpolished Rice." Packer, McFaddin Wies-Kyle Rice Milling Co., Beaumont, Tex.; retailer, Palmer Mercantile Co., Palmer, Kan. Labeled "Unpolished Rice." Analysis shows that the sample was polished. Misbranded.

SYRUPS.

Insp. No. 6715. Label: "Golden Rod Corn Syrup." Manufacturer, D. B. Scully Syrup Co., Chicago, Ill.; retailer, J. W. Johnson & Son, Olathe, Kan. Contained 24.14 per cent of water by refractometer. Excess amount of water. Below standard.

Insp. No. 70113. Label: "Idlewild Brand Syrup. A delicious blend of Pure Maple and Cane Syrup." Manufacturer, the Davis Mercantile Co., Topeka, Kan.; retailer, Dibble Grocery Co., Sixth street, Topeka, Kan. From the label, this sample should contain

not less than 50 per cent of maple syrup. From the amount of ash found in the sample it is evident that it did not contain 50 per cent of maple syrup. The analysis also showed an excess of water.

Insp. No. 70212. Label: "A. P. Brand (Absolutely Pure) Cane and Refiners' Syrup with Maple Flavor." Manufacturer, Bliss Syrup Refining Co., Kansas City, Mo.; retailer, Hamann Mercantile Co., Hiawatha, Kan. Misbranded in that the product is claimed to be "absolutely pure."

Insp. No. 70222. Label: "Mary Jane, a table syrup prepared from Corn Syrup, Molasses, and Pure Country Sorghum." Manufacturer, Corn Products Refining Co., New York; retailer, J. T. Fleming, Fort Scott, Kan. Sample is claimed to be made of corn syrup, molasses, and pure country sorghum. The percentages of the constituents are not stated. Not in compliance with regulation 6, which requires percentage of ingredients to be stated on label.

Insp. No. 70229. Label: "Idlewild Brand Syrup, a delicious blend of Pure Maple and Cane Syrup, 60 per cent Maple Syrup, 40 per cent Cane Syrup." Packed for the Davis Mercantile Co., Topeka, Kan.; retailer, Houston & Calkins, Hoyt, Kan. The label claims 60 per cent of maple syrup, and from the amount of ash found the maple could not have been more than 45 per cent. Sample is also high in water.

Insp. No. 70231. Label: "Pure Country Sorghum." Manufacturer, the Brookhaven Syrup Co., Brookhaven, Miss.; retailer, Houston & Calkins, Hoyt, Kan. Short weight, $8\frac{1}{8}$ per cent. Misbranded.

Insp. No. 99181. Label: "Karo (Crystal White). A table delicacy prepared from Corn Syrup of the highest grade, Granulated Sugar, Syrup and Vanilla Flavor." Jobber: The Davis Mercantile Co., Topeka, Kan.; retailer, Whittelsey Mercantile Co., Topeka, Kan. Percentages of the constituents are not stated on the label as is required by regulation 6.

Insp. No. 90182. Label: "Table Syrup, prepared from Corn Syrup of the highest grade and from a selected quality of Refiners' Syrup." Manufacturer, Corn Products Refining Co., New York; jobber, Davis Mercantile Co., Topeka, Kan.; retailer, Whittelsey Mercantile Co., Topeka, Kan. Percentages of the constituents are not stated.

VINEGAR.

Insp. No. 70224. Label, "Pure Cider Vinegar. Silver Leaf Brand." Manufacturer, Otto Kuehne Preserving Co., Topeka,

Kan.; retailer, Hinnen Sons, Holton, Kan. Low in glycerine and soluble phosphoric acid.

Insp. No. 90125. Vinegar. Passed.

Insp. No. 90126. Label, "Cider Vinegar. Harvest Home Brand." Manufacturer, Douglas Packing Co., Rochester, N. Y.; retailer, Jett & Wood Grocery Co., Wichita, Kan. Acidity, 3.1 per cent. Below standard.

Insp. No. 90127. Label, "Apple Vinegar. Harvest Home Brand." Manufacturer, Douglas Packing Co., Rochester, N. Y.; retailer, Geo. E. Armstrong, Cheney, Kan. Below standard.

Insp. No. 90129. Label, "Cider Vinegar. Always Good Brand." Manufacturer, Jones Brothers & Co., Rogers, Ark.; jobber, Lehmann-Higginson Grocery Co., Wichita, Kan. Below standard.

Insp. No. 90130. Vinegar. Passed.

Insp. No. 90225. Label, "Cider Vinegar." Manufacturer, H. W. McAfee, Topeka, Kan.; retailer Wm. Green & Son, Topeka, Kan. Acidity, 2.3 per cent. Below standard.

Insp. No. 90226. Label, "Cider Vinegar." Manufacturer, H. W. McAfee, Topeka, Kan.; retailer, Wm. Green & Son, Topeka, Kan. Acidity, 2.29 per cent. Below standard.

Insp. No. 90229. Label, "Cider Vinegar." Manufacturer, F. M. Washburn, Washburn Cider Vinegar Works, Topeka, Kan.; retailer, Faris & Lyons, Topeka, Kan. Acidity, 3.78 per cent. Below standard.

Insp. No. 70171. Label, "Vinegar." Manufacturer, Douglas Packing Co., Rochester, N. Y.; retailer, Bitmann-Todd Grocery Co. High in the per cent of ash in nonsugar solids and low in glycerine.

Insp. No. 70227. Vinegar. Passed.

Insp. No. 70234. Label, "Vinegar. Silver Leaf Brand." Manufacturer, Otto Kuehne Preserving Co., Topeka, Kan.; retailer, Chas. Blucker, Home, Kan. High in the per cent of ash in nonsugar solids and low in soluble phosphoric acid.

Insp. No. 70235. Label, "Vinegar. Silver Leaf Brand." Manufacturer, Otto Kuehne Preserving Co., Topeka, Kan.; retailer, E. H. Tangeman, Home, Kan. High in the per cent of ash in nonsugar solids and low in glycerine.

DIVISION OF BACTERIOLOGY AND PATHOLOGY.

DR. SARA E. GREENFIELD, Bacteriologist. DR. R. S. MCGEE, Pathologist.

Laboratory Report for Month of July, 1913.

Total number of specimens examined.....	205	
Specimens of sputum.....	138	Positive, 30
Widal reaction.....	40	" 12
Diphtheria.....	12	" 8
Samples of water.....	12	" 7
Gonorrhoea.....	2	" 0
Brain of dog.....	1	" 1

The following are the towns from which the specimens were received: Topeka, 9; Valley Falls, 1; Niles, 2; Fredonia, 1; Lancaster, 2; McPherson, 5; Kansas City, 6; Haven, 1; Junction City, 5; Eureka, 2; Caney, 2; Lucas, 1; Dodge City, 5; Niotaze, 1; Protection, 1; Enterprise, 1; Emporia, 10; Hays, 1; Leavenworth, 2; Goffs, 2; Hillsboro, 1; Holton, 1; Bennington, 1; Fort Scott, 4; Ottawa, 2; Phillipsburg, 2; Maplehill, 1; Greeley, 1; Minneapolis, 1; Liberal, 2; Blue Rapids, 3; Sedan, 2; Humboldt, 1; Wamego, 1; Fulton, 1; Ashland, 2; Bucklin, 1; Arkansas City, 2; Belleville, 1; Durham, 1; Parsons, 2; Lawrence, 2; White Water, 1; Peabody, 1; Delphos, 2; Sabetha, 2; Winfield, 4; Cambridge, 3; Atwood, 5; McCune, 2; Overbrook, 1; Onaga, 1; Olathe, 1; Mulvane, 1; Linn, 1; Dwight, 1; Glasco, 2; Saffordville, 1; Independence, 1; Clay Center, 1; Hutchinson, 5; Maple City, 1; Burr Oak, 2; Wichita, 3; Waterville, 1; Hanover, 2; Galena, 3; Everest, 1; Hiattville, 1; Burns, 1; Garnett, 1; Centralia, 1; Atchison, 2; Medicine Lodge, 2; Lansing, 1; Alton, 1; Greensburg, 2; Goodland, 1; La Harpe, 1; Minneola, 1; Attica, 1; Conway Springs, 1; Clyde, 1; Cedar Point, 1; Marion, 1; Columbus, 1; Kingman, 1; Coldwater, 1; Florence, 1; Spearville, 1; Stafford, 2; Hope, 2; Altamont, 1; Zenda, 1; Galesburg, 1; Larned, 1; Anthony, 1; Cherryvale, 1; White Water, 1; Waverly, 1; Greenleaf, 1; Concordia, 3; LeLoup, 1; Simpson, 1; West Mineral, 1; Newton, 4; Iola, 1; Cawker City, 1; Abbyville, 2.

The rapidly increasing use of typhoid vaccine makes it necessary to call attention to the fact that as typhoid vaccination increases the Widal reaction will decrease in value as a means of

diagnosis. The blood of persons who have been immunized against typhoid gives the Widal reaction; so from now on this question must be asked: "Have you been vaccinated for typhoid?" and if so it will be useless to try the Widal reaction.

Vincent's angina, or ulcerative sore throat, is not an uncommon disease here in Kansas, as is shown by laboratory findings. The symptoms are often identical to the early symptoms of diphtheria. Specimens taken from such cases will show from the direct smear many spindle- and needle-shaped bacilli, and if carefully stained will show the spiral forms. An incubated specimen will show none of these forms, but will show the ordinary pus germs which are always intermixed. This is because the organisms of Vincent's angina are anaerobic and will not grow on the ordinary blood serum culture. This form of sore throat is contagious and may be very severe, but the mortality rate is low. It is, of course, not benefited by diphtheria antitoxin.

It is necessary to call the attention of the physicians who send in specimens to the fact that some specimens are not properly packed when sent. This department sends mailing cases to all physicians who request them, but there are always a few doctors who are either out of cases or do not know where to get supplies, so that specimens are constantly coming in in containers other than the ones we send out. If the specimen is in a good mailing case or is carefully packed in a small wooden or tin box, no objection can be made, but it is not uncommon to receive a glass bottle wrapped in some pasteboard, or even, as in a case of recent date, a glass bottle simply placed in an ordinary letter envelope. Post-office people do not have to handle such packages; in fact, there is a specific ruling covering just such packages. Frequently the strongest double mailing cases are bent or broken by the heavy objects thrown against them in transportation, and it is almost a miracle when specimens arrive unbroken when they are protected by a paper envelope or thin pasteboard covering.

Don't Kill the Dog

Until you have assured yourself that he has some symptoms of hydrophobia. The expression "dog days" conveys to the mind of the average individual that hot summer weather is responsible for the prevalence of rabies. As a matter of fact, it is more prevalent during summer months, but simply because animals, especially canines, are more prone to migrate during those months, and it is thus more apt to be distributed.

The state bacteriologist is always ready to examine brains and cords of animals sent in, but some discretion is demanded from those sending in specimens for examination. The bacteriological department is obliged to do a variety of work, and is always overcrowded. To flood the office with specimens of brains and cords from every dog that bites and every cat that scratches is beyond reason, and it is a physical impossibility to comply with all demands in that line.

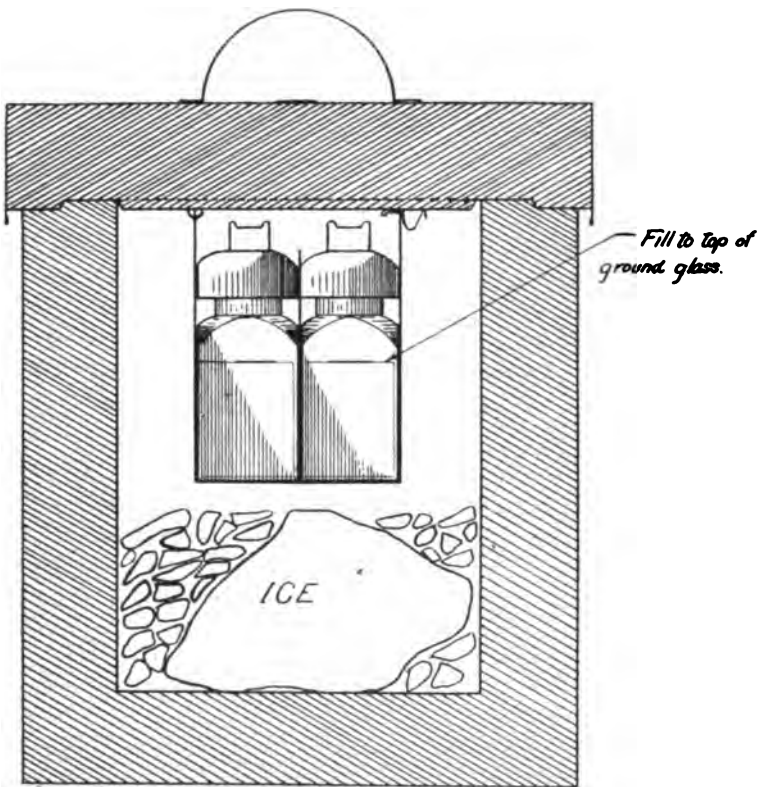
It is the nature of a dog to bite if he is irritated, and the hot weather doesn't breed good temper in dogs any more than it does in individuals. So if the cat scratches and the dog bites, don't lose your head. Cauterize the wound, watch it carefully for pus infection, and leave out the hysteria.

But don't execute Fido or Rover, or Maria or Tom. Look 'em up, or tie them up, and watch them. A few days' delay isn't going to make any difference in the antirabic treatment, and it may clarify the diagnosis. Maybe you will find Rover had his toes stepped on and the pain aroused his resentment temporarily. Or possibly Baby was pulling the cat's tail and Tom fought back.

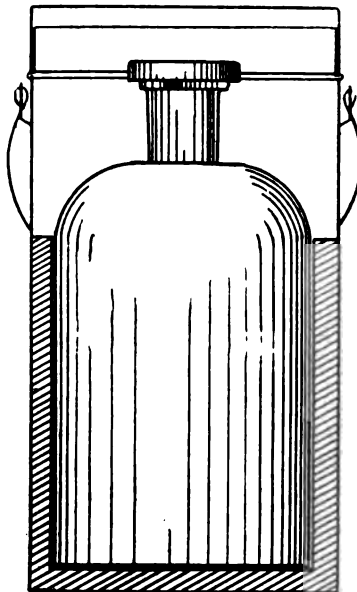
Four or five days' confinement under careful observation may disclose that no rabies is present and the alarm was unnecessary. Should there be no doubt that the animal does have symptoms of the disease, then is time enough to execute. Also, if you send in a specimen, preserve it by packing in ice, or placing in a solution of bichloride 1:2000, or suspending in glycerine.

A brain and cord several days old without any attempt at preservation isn't apt to disclose any Negri bodies, and the expressman objects in strenuous and emphatic terms to handling it during the present hot weather.

Kansas has a law providing that all ownerless dogs shall be killed. Suppose you insist in seeing the law enforced in your community. Furthermore, insist on the muzzling of all dogs that have owners. In countries where this measure is strictly carried out rabies is unknown. Why not prevent it in your community, and you will not be obliged to worry about the disease?



Bacteriological shipping case, portable refrigerator, cross section.



Chemical shipping case, cross section.

DIVISION OF WATER AND SEWAGE.

G. R. JONES, C. E., S. B., Consulting Engineer. C. A. HASKINS, B. S., State Sanitary Engineer. C. C. YOUNG, M. S., Director of Water Survey,

Foreword.

These instructions have been prepared primarily for Kansas municipal officials and county health officers, for whom examination of water supplies is made by the University laboratories in the interest of public health. To these and to any others interested in wholesome water who may have occasion to send samples to Lawrence for examination attention is especially called to the necessity of following in strictest detail the directions for collection and shipment of samples, since it is only by utmost care in all the steps leading to a final interpretation that error can be reduced to a minimum. Analyses are made free of charge for county and municipal health officers, for physicians who suspect that a water is the cause of transmission of disease, and city engineers or other municipal officials in charge of the water plants or in charge of investigations to secure supplies for the municipalities.

Sanitary Water Analysis.

STEPS IN THE PROCESS OF MAKING AN EXAMINATION OF A SAMPLE OF WATER.

The various steps concerned in the complete process of determining the sanitary quality of a shipped sample of water may be enumerated as follows:

1. Sterilization of the glass containers in the University laboratory.
2. Shipment of the containers and portable refrigerator to the sampler at the water supply to be examined.
3. Collection of the samples.
4. Icing of the portable refrigerator.
5. Shipment of the iced samples to the University at Lawrence.
6. Bacteriological and chemical examination of the samples.
7. Interpretation of the results.
8. Recording and giving notice of interpretation.

The third, fourth and fifth steps are those in which the party at the water supply to be examined is directly concerned, and it is for such that explicit directions are herewith given:

COLLECTION OF SAMPLES FOR BACTERIOLOGICAL EXAMINATION.

Handling of the containers. Great care must be exercised so as to avoid bringing the hand or other object into contact with the parts of the bottles which come into contact with the water. Hold the stopper by the handle when collecting a sample. Do not lay it down. The glass around the mouth of the bottles should also be protected. Unstopper the bottles only when ready to put the water in, and stopper them immediately afterward. Fill only to the top of the ground glass.

Time for collection of samples. Ascertain the time of departure of a train that makes the best connection to Lawrence; then collect as soon before such departure as possible.

Collection of samples from a pump. Use the pump for at least three minutes just before sampling, taking care that the waste water is carried to a distance, so that it will not wash back into the well or cistern. Collect the water directly into the bottle.

Collection of samples from a bucket. Draw up three or four buckets of water and allow the water to waste, using care that the water does not wash back into the well. Pour from the bucket directly into the bottle.

Collection of samples from a faucet. Allow the water to run at least three minutes; then collect the sample directly into the bottle.

Collection of samples from a reservoir, lake or river. Remove the stopper of the bottle, hold the bottle by the bottom and plunge it mouth downwards into the water to a depth of about six inches; then turn it horizontally, and as it fills move the bottle mouth forwards and then upwards. In other words, do not let any washings from the hand enter the bottle.

Icing the portable refrigerator (shipping case). Examine construction of case carefully. Place as large a piece of ice as possible in bottom of case, then fill in with cracked ice until the case will just close easily.

Shipment of the samples. The samples should be routed by express, so that they will reach the laboratories as soon as possible after collection. They should be shipped so that they will arrive in Lawrence before Thursday of each week. Water samples are classed in "scale K" by the express companies.

Collection of samples for chemical analysis. The same care should be observed in collection of chemical samples as when collecting water for bacteriological examination, with the exception that the bottle should be filled to overflowing to remove air; then emptied and filled again to the neck of bottles for shipment.

Shipment of samples for chemical analysis. Chemical samples must be shipped with the bacteriological samples.

CHILD LABOR.

Ah, who are these on whom the vital bloom
Of life has withered to the dust of doom?

These little pilgrims, prematurely worn
And bent as if they bore the weight of years?
These childish faces, pallid and forlorn,
Too dull for laughter and too hard for tears?
Is this the ghost of that insane crusade

That led ten thousand children long ago,
A flock of innocents, deceived, betrayed,
Yet pressing on through want and woe
To meet their fate, faithful and unafraid?

Nay, for a million children now
Are marching in the long, pathetic line,
With weary step and early wrinkled brow;
And at their head appears no holy sign
Of hope in heaven;

For unto them is given
No cross to carry, but a cross to drag.

Before their strength is ripe they bear
The load of labor, toiling underground
In dangerous mines, and breathing heavy air
Of crowded shops; their tender lives are bound
To service of the whirling, clattering wheels
That fill the factories with dust and noise;
They are not girls and boys,
But little "hands," who blindly, dumbly feed
With their own blood the hungry god of Greed.

—Dr. Henry Van Dyke, in "*Who Follow the Flag.*"

BULLETIN

OF THE

Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

S. J. CRUMBINE, M. D., Editor.

Entered as second-class matter. March 5, 1906, at the post office at Topeka, Kan.,
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No. 9.

SEPTEMBER, 1913.

VOL. IX.

DIVISIONS.

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It costs—but it is worth while.

Civic cleanliness has its own reward—community health.

The State Sanatorium for Tuberculosis has been located at Norton.

The sleeping porch is a matter of comfort in the summer, and of necessity in the winter.

Sudden changes in the weather should be met by sudden changes in clothing.

It is folly to follow the fashions or the almanac as an index when to change from light to heavy clothing.

The permanent foundation for the general prosperity of the state must, in its final analysis, rest on the general health of the people.

The mortality rate from tuberculosis in Kansas for 1912 was 64 per 100,000, as against a rate of 160 per 100,000 in the "registration area" in 1910.

The state hospital for the treatment of indigent poor is located at Rosedale. Physicians desiring to send patients should correspond with the editor of this BULLETIN.

The present movement inaugurated by the paint and oil trade of the "City Beautiful," by painting, is inseparably connected with the public health movement of "city cleanliness," both of which will aid in "city healthfulness."

"Where there is life there is soap."

VITAL STATISTICS

Reported to the State Board of Health for August, 1913.

CONTAGIOUS AND INFECTIOUS DISEASES.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
The State..totals.....	299	22	53	2	46	2	10	0	32	1
August, 1912.....										
Allen.....	1	0	0	0	0	0	0	0	0	0
Anderson.....	2	0	0	0	0	0	0	0	0	0
Atchison.....	1	0	0	0	0	0	0	0	0	0
Barber.....	1	0	0	0	0	0	0	0	0	0
Barton.....	2	0	0	0	0	0	0	0	0	0
Bourbon.....	3	0	0	0	0	0	0	0	0	0
*Brown.....										
Butler.....	4	1	0	0	0	0	0	0	3	0
Chase.....	3	0	0	0	0	0	0	0	0	0
Chautauqua.....	4	0	0	0	2	0	0	0	0	0
Cherokee.....	3	0	2	0	1	0	0	0	0	0
Cheyenne.....	1	1	0	0	1	0	0	0	1	0
*Clark.....										
Clay.....										
Cloud.....	3	0	0	0	0	0	0	0	2	0
Coffey.....	3	0	1	0	0	0	0	0	0	0
Comanche.....	2	1	0	0	0	0	0	0	0	0
Cowley.....	2	2	0	0	0	0	0	0	0	0
Crawford.....	2	0	5	0	0	0	0	0	0	0
*Decatur.....										
Dickinson.....	4	1	0	0	0	0	0	0	0	0
Doniphan.....	4	0	0	0	0	0	0	0	0	0
Douglas.....	2	0	0	0	0	0	0	0	0	0
Edwards.....	3	1	0	0	0	0	0	0	0	0
Elk.....	2	0	0	0	0	0	0	0	0	0
*Ellis.....										
Ellsworth.....	1	0	0	0	0	0	0	0	0	0
Finnery.....	1	0	0	0	0	0	0	0	0	0
Ford.....	4	0	0	0	0	0	0	0	0	0
Franklin.....	1	0	1	0	4	0	0	0	0	0
Geary.....	1	0	2	0	0	0	0	0	0	0
Gove.....	2	0	0	0	0	0	0	0	0	0
*Graham.....										
Grant.....										
Gray.....	3	0	0	0	0	0	0	0	0	0
*Greeley.....										
Greenwood.....	10	0	0	0	1	0	0	0	0	0
*Hamilton.....										
Harper.....	1	0	0	0	0	0	0	0	0	0
Harvey.....	2	0	0	0	0	0	0	0	2	0
Haskell.....	1	0	0	0	0	0	0	0	0	0
*Hodgeman.....										
Jackson.....	4	0	0	0	1	0	0	0	0	0
Jefferson.....	1	0	0	0	0	0	0	0	0	0
*Jewell.....										
Johnson.....										
Kearny.....	1	0	0	0	0	0	0	0	0	0
Kingman.....	2	0	0	0	0	0	0	0	0	0
*Kiowa.....										
Labette.....	4	1	0	0	0	0	1	0	0	0
*Lane.....										
Leavenworth.....	1	0	5	0	0	0	0	0	0	0
Lincoln.....	8	1	0	0	0	0	0	0	0	0
Linn.....	2	0	0	0	0	0	0	0	0	0
*Logan.....										
Lyon.....	3	0	1	0	0	0	0	0	0	0
Marion.....	5	0	0	0	0	0	0	0	5	0
Marshall.....	1	0	1	0	1	0	0	0	1	0
McPherson.....	5	0	0	0	2	0	0	0	0	0
Meade.....	4	0	0	0	0	0	0	0	0	0

* No report from health officer.

CONTAGIOUS AND INFECTIOUS DISEASES—Continued.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.
Miami.....	0	0	0	0	0	0	0	0	1	0
* Mitchell.....	5	0	15	1	0	0	0	0	0	0
Montgomery.....	5	0	8	0	6	0	6	0	0	0
Morris.....	1	1	0	0	0	0	0	0	0	0
Morton.....	2	0	0	0	3	0	0	0	0	0
Nemaha.....	0	0	0	0	1	0	1	0	0	0
Neosho.....	4	0	0	0	0	0	0	0	0	0
Ness.....	4	0	0	0	0	0	0	0	0	0
* Norton.....	4	0	0	0	0	0	0	0	0	0
Osage.....	2	2	0	0	0	0	0	0	0	0
* Osborne.....	0	0	8	1	0	0	0	0	0	0
* Ottawa.....	0	0	0	0	1	0	0	0	2	0
Pawnee.....	0	0	0	0	0	0	0	0	0	0
Phillips.....	0	0	0	0	0	0	0	0	0	0
Pottawatomie.....	0	0	0	0	0	0	0	0	0	0
* Pratt.....	0	0	0	0	9	0	0	0	0	0
Rawlins.....	1	0	4	0	0	0	0	0	0	0
Reno.....	2	0	0	0	0	0	0	0	0	0
Republic.....	2	0	0	0	0	0	0	0	0	0
* Rice.....	2	0	0	0	0	0	0	0	1	0
Riley.....	1	1	0	0	0	0	0	0	3	0
Rooks.....	0	0	0	0	0	0	0	0	1	1
Rush.....	1	0	0	0	0	0	0	0	0	0
* Russell.....	1	0	0	0	0	0	0	0	0	0
Saline.....	7	3	0	0	0	0	1	0	1	0
* Scott.....	0	0	0	0	3	2	0	0	0	0
Sedgwick.....	1	0	0	0	0	0	0	0	0	0
* Seward.....	8	0	0	0	0	0	0	0	0	0
Shawnee.....	1	0	0	0	0	0	0	0	0	0
Sheridan.....	8	0	0	0	0	0	0	0	0	0
Sherman.....	8	0	0	0	0	0	0	0	0	0
* Smith.....	8	0	0	0	0	0	0	0	0	0
Stafford.....	1	0	0	0	0	0	0	0	0	0
* Stanton.....	15	0	1	0	0	0	1	0	1	0
Stevens.....	8	0	0	0	0	0	0	0	0	0
Sumner.....	0	0	0	0	0	0	3	0	0	0
Thomas.....	0	0	0	0	0	0	0	0	0	0
* Trego.....	0	0	0	0	0	0	0	0	0	0
Wabaunsee.....	3	0	0	0	0	0	0	0	0	0
Wallace.....	0	0	0	0	0	0	0	0	0	0
* Washington.....	3	0	0	0	0	0	0	0	0	0
Wichita.....	6	0	0	0	1	0	0	0	0	0
Wilson.....	9	2	0	0	0	0	0	0	0	0
Woodson.....	0	0	0	0	0	0	0	0	0	0
* Wyandotte.....	0	0	0	0	0	0	0	0	0	0
Cities:										
Atchison.....	3	0	0	0	1	0	0	0	0	0
Coffeyville.....	3	1	0	0	1	0	0	0	0	0
Fort Scott.....	6	0	0	0	1	0	0	0	1	0
Hutchinson.....	2	2	0	0	0	0	0	0	0	0
Independence.....	38	0	1	0	1	0	1	0	1	0
Kansas City.....	2	0	2	0	0	0	0	0	0	0
Lawrence.....	12	0	0	0	1	0	0	0	0	0
Leavenworth.....	4	0	0	0	0	0	0	0	0	0
Parsons.....	2	1	1	0	4	0	2	0	0	0
Pittsburg.....	4	0	0	0	0	0	0	0	0	0
Topeka.....	4	0	0	0	0	0	0	0	0	0
Wichita.....	4	0	0	0	0	0	0	0	0	0

* No report from county health officer.

NOTE.—There were reported also 9 cases of poliomyelitis with 2 deaths; 1 case cerebro-spinal meningitis; 10 cases of cholera infantum with one death; and 39 cases of dysentery with 2 deaths.

VITAL STATISTICS.

Reported to the Kansas State Board of Health for April, May,
and June, 1913.

STILLBIRTHS NOT INCLUDED.

COUNTIES.	April.		May.		June.	
	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.
Allen.....	40	16	31	16	30	18
Anderson.....	27	10	25	11	15	7
Atchison.....	32	20	23	15	27	25
Barber.....	17	7	6	10	10	10
Barton.....	39	15	40	20	42	10
Bourbon.....	40	27	28	17	36	12
Brown.....	45	10	33	14	32	8
Butler.....	38	14	35	15	30	15
Chase.....	16	7	12	4	10	4
Chautauqua.....	27	8	20	6	11	4
Cherokee.....	95	47	66	29	56	24
Cheyenne.....	4	3	6	2	17	3
Clark.....	14	1	8	2	10	3
Clay.....	26	19	24	10	19	4
Cloud.....	32	15	30	13	37	20
Coffey.....	19	14	23	12	22	7
Comanche.....	22	3	11	4	12	0
Cowley.....	54	23	47	31	44	17
Crawford.....	96	55	86	37	105	42
Decatur.....	9	6	9	4	13	4
Dickinson.....	58	20	20	13	45	15
Doniphan.....	23	15	28	12	34	14
Douglas.....	30	32	25	17	26	24
Edwards.....	13	4	12	2	7	5
Elk.....	18	4	15	10	15	5
Ellis.....	35	12	38	6	22	7
Ellsworth.....	21	4	16	8	17	5
Finney.....	5	7	21	6	5	9
Ford.....	26	12	25	15	16	17
Franklin.....	23	19	43	10	35	18
Geary.....	19	10	16	12	17	13
Gove.....	3	2	9	3	7	1
Graham.....	15	5	2	0	17	5
Grant.....	2	1	1	0	0	1
Gray.....	3	2	6	3	1	1
Greeley.....	1	0	0	1	3	1
Greenwood.....	27	12	25	7	19	10
Hamilton.....	2	2	5	4	4	0
Harper.....	34	13	27	10	27	12
Harvey.....	40	19	32	13	44	13
Haskell.....	0	0	2	0	3	0
Hodgeman.....	3	4	8	0	7	5
Jackson.....	31	11	36	16	21	14
Jefferson.....	23	22	18	14	21	13
Jewell.....	43	15	25	11	30	6
Johnson.....	23	13	20	17	16	7
Kearny.....	6	0	4	3	4	2
Kingman.....	17	7	10	5	10	8
Kiowa.....	31	7	12	6	6	1
Labette.....	33	34	55	31	40	41
Lane.....	7	4	3	2	1	1
Leavenworth.....	54	46	45	31	39	27
Lincoln.....	21	6	27	11	19	6
Linn.....	17	22	10	10	22	14
Logan.....	2	5	4	6	8	1
Lyon.....	40	17	43	29	35	24
Marion.....	37	10	42	17	41	20
Marshall.....	26	14	33	22	9	14
McPherson.....	41	6	38	20	28	23
Meade.....	15	4	10	3	7	2

BIRTHS AND DEATHS FOR APRIL, MAY AND JUNE.—Concluded.

COUNTIES.	April		May.		June.	
	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.
Miami	33	45	23	30	19	17
Mitchell	12	12	18	15	21	13
Montgomery	72	33	68	37	55	36
Morris	29	8	30	13	9	12
Morton	0	0	0	0	1	0
Nemaha	39	18	29	15	33	12
Neosho	38	18	42	17	40	15
Ness	18	7	14	1	5	0
Norton	14	7	11	9	8	3
Osage	19	11	37	18	41	21
Osborne	21	12	18	8	18	2
Ottawa	46	18	29	6	20	8
Pawnee	23	13	17	5	9	2
Phillips	20	9	12	3	7	6
Pottawatomie	23	12	30	7	20	15
Pratt	16	12	24	11	13	1
Rawlins	15	4	6	4	8	2
Reno	58	39	63	25	99	27
Republic	24	14	29	15	39	15
Rice	38	10	25	9	14	6
Riley	19	11	24	12	24	8
Rooks	18	7	21	10	15	5
Rush	9	7	27	6	20	7
Russell	23	7	14	4	10	10
Saline	37	12	43	2	23	18
Scott	4	2	3	1	5	1
Sedgwick	111	56	102	61	91	72
Seward	7	2	5	4	7	6
Shawnee	99	93	102	99	102	32
Sheridan	7	2	9	3	6	3
Sherman	7	1	6	2	6	4
Smith	39	9	34	11	34	8
Stafford	25	8	25	16	17	14
Stanton	0	0	1	1	0	0
Stevens	6	1	6	0	1	0
Sumner	48	17	40	18	40	15
Thomas	10	3	5	2	3	4
Trego	9	1	11	0	5	1
Wabaunsee	18	6	7	7	9	9
Wallace	3	2	4	1	3	2
Washington	49	24	24	14	33	11
Wichita	2	0	2	0	2	1
Wilson	32	26	29	13	40	11
Woodson	18	7	3	3	11	4
Wyandotte	187	135	161	125	187	96

DEATHS AND BIRTHS IN KANSAS,

Months of April, May, and June, 1913.

DEATHS.

Stillbirths not included.

Typhoid fever.....	31	Diseases of liver and adnexa.....	65
Smallpox.....	7	Peritonitis.....	24
Measles.....	61	Other diseases digestive system.....	89
Scarlet fever.....	15	Acutenephritis.....	24
Whooping cough.....	36	Bright's disease.....	249
Diphtheria.....	18	Other diseases genito-urinary system.....	70
Dysentery.....	8	The puerperal state.....	60
Tuberculosis, all forms.....	311	Diseases of the skin, etc.....	17
Cancer, all forms.....	277	Diseases of the bones, etc.....	3
Rheumatism, all forms.....	23	Malformations.....	67
Diabetes.....	55	Diseases of early infancy.....	275
Other general diseases.....	139	Old age.....	211
Meningitis.....	47	Suicides.....	56
Cerebral hemorrhage.....	215	Accidents.....	240
Paralysis.....	101	Homicides.....	21
Other diseases nervous system.....	136	Ill-defined diseases.....	44
Organic heart disease.....	354	Total deaths.....	4,101
Other diseases circulatory system.....	135		
Broncho-pneumonia.....	124		
Pneumonia.....	146		
Other diseases respiratory system.....	81		
Diarrhea and enteritis (under 2 years)....	132		
Diarrhea and enteritis (2 years and over)...	80		
Appendicitis.....	49		

BIRTHS.

Males.....	4,127
Females.....	3,878
White, 7,804. Colored, 200. Indian, 1.	
Total births, 8,005.	
Stillbirths, 258.	

AGES AT DATE OF DEATH.

Ages.	No.	SEX.	No.
-1.....	650	Males.....	2,217
1-2.....	171	Females.....	1,834
3-5.....	85		
6-10.....	94	COLOR.	
11-15.....	72	White.....	3,701
16-20.....	104	Chinese.....	0
21-25.....	140	Indian.....	7
26-30.....	142	Black.....	293
31-35.....	175		
36-40.....	165	SOCIAL CONDITION.	
41-45.....	148	Single.....	1,473
46-50.....	152	Married.....	1,717
51-60.....	430	Widowed.....	810
61-70.....	569	Divorced.....	36
71-80.....	644	Unknown.....	65
81-90.....	323		
91-100.....	25	NATIONALITY.	
100-+.....	3	Native.....	3,445
Unknown.....	4	Foreign.....	549
Total.....	4,101	Unknown.....	107
		Total.....	4,101

FOOD ANALYSIS No. XLVII.

By Prof. E. H. S. BAILEY, Ph. D., chemist for the State Board of Health, and director of the chemical laboratories, and OSCAR E. HARDER, M. A., food analyst.

AUGUST 29, 1913.

The following report is based largely on work the most of which has been done since June 20, 1913.

BEVERAGES.

Inspr. No. 20501. Label: "Real Grape Drink made from Dunn's Grape Juice. Artificial Color and Flavor. $\frac{1}{10}$ of 1% Benzoate of Soda." Manufacturer, Geo. Grubel Bottling Works, Kansas City, Kan. Retailer, O. J. Koury, Kansas City, Kan. Product contained little or none of the normal constituents of grape juice, and was artificially colored with a coal-tar dye.

CANDIES.

Inspr. No. 20081-A. Label (inspr.'s): "Candy." Manufacturer, Novelty Candy & Choc. Company; retailer, S. H. Knox, 5 and 10c. Store, Kansas City, Kan. Colored with an uncertified color.

Inspr. No. 20082. Label (inspr.'s): "Candy." Manufacturer, no name on barrel; retailer, S. H. Knox Co., 5 and 10c Store, Kansas City, Kan. Red pieces colored with an uncertified color. Some of the pieces had as high as 1.5 per cent of starch.

Inspr. No. 20083. Label (inspr.'s): "Candy." Manufacturer, Crown Choc. Co., McKeesport, Pa.; retailer, S. H. Knox Co., 5 and 10c. Store, Kansas City, Kan. Sample contained raw starch.

Inspr. No. 20086. Label (inspr.'s): "Candy." Manufacturer, Mrs. E. Koclanes (Den of Sweets), Kansas City, Kan. The yellow pieces were colored with an uncertified color.

Inspr. No. 70064. Label (inspr.'s): "Candy." Manufacturer, Zervokos Bros., Atchison, Kan. High in ash. Over 8 per cent of starch, and showed small amount of mineral matter.

Inspr. No. 70070. Label (inspr.'s): "Candy." Manufacturer, Hardie Bros., Pittsburg, Pa.; retailer, F. W. Woolworth & Co., Atchison, Kan. Coating indicated. Raw starch present in 0.65 per cent.

Inspr. No. 9684. Label (inspr.'s): "Caramels." Manufacturer, National Biscuit Co., St. Joseph, Mo.; retailer, N. V. Shearer, Atchison, Kan. Sample contained nearly 50 per cent of glucose, about 17 per cent of sucrose, and about 17 per cent of raw starch.

Inspr. No. 9686. Label (inspr.'s): "Licorice Gum." Manufacturer, Hardie Bros., Pittsburg, Pa.; retailer, F. W. Woolworth & Co., Atchison, Kan. This sample of candy was made to imitate licorice candy. It contained 1.5 per cent of carbon, 10 per cent of starch, probably tapioca flour, some gelatine or glue, and some sugar and glucose, and was flavored with anise seed.

Inspr. No. 9687. Label (inspr.'s): "Caramels." Brand: Champion Caramels. Manufacturer, American Caramel Co., Chicago, Ill.; retailer, F. W. Woolworth, Atchison, Kan. Sample contained about 10 per cent flour and 62 per cent of glucose.

Inspr. No. 9734. Label (inspr.'s): "Boss Imperials." Manufacturer, Loose-Wiles Biscuit Co., Kansas City, Mo.; retailer, Wills & Son, Independence, Kan. Contained an uncertified color in addition to a certified color.

Inspr. No. 9741. Label (inspr.'s): "Candy." Manufacturer, Bonlos Bros., Wichita, Kan. High in ash and gave tests for aluminum and calcium sulphate.

Inspr. No. 9762. Label (inspr.'s): "Vanilla Caramels." Manufacturer, Borden Condensed Milk Co., New York city; retailer, C. A. Kessler, Wichita, Kan., 121 E. Douglas avenue. Starch, 14 per cent.

Inspr. No. 9777. Label (inspr.'s): "Candy." Manufacturer, E. J. Brach & Son, Chicago, Ill.; retailer, H. T. Nathaway, Chanute, Kan. This sample of candy was coated with a resinous-like substance, insoluble in water, and separated from the pieces of candy when placed in water.

The following samples of candy have been examined and passed: Inspr.'s Nos. 20084, 20085, 20267, 20268, 20269, 20270, 20271, 20274, 20283, 20286, 20287, 20289, 20290, 20291, 20292, 20533, 5604, 5605, 5608, 5609, 5610, 5611, 5618, 5619, 5620, 5621, 5623, 5624, 5627, 6697, 6699, 6768, 6769, 6700, 6770, 6771, 6772, 6773, 70065, 70066, 70067, 70068, 70069, 9682, 9682A, 9683, 9685, 9688, 9733, 9756, 9763, 9778, 9919, 9925, 90115, 90196, 90198, 90199, 90200, 90201, 90202, 90203, 90204, 90205, 90206, 90207, 90208, 90232, 90234.

CATSUP.

Inspr. No. 6777. Passed.

Inspr. No. 6779. Passed.

Inspr. No. 6782. Passed.

Inspr. No. 6783. Passed.

Inspr. No. 70252. Label: "Neosho Brand Superior Ketchup Contents: Salt, tomato trimmings, sugar, spices, onions, distilled vinegar and one-tenth of one per cent sodium benzoate." Packed

by Neesho Canning Co., Neosho, Mo.; retailer, J. T. Lancaster, St. Paul, Kan. Contained more sodium benzoate than stated on the label.

CIDERS.

Inspr. No. 6800. Label: "Blackberry Cider." Manufacturer, Grost-Graff & Co., Louisville, Ky.; retailer, James Bellow, Beloit, Kan. This sample is labeled "Blackberry Cider," when in fact it is a sample of blackberry wine, and contains more alcohol than could be made from pure blackberry juice, and has therefore been sweetened and fermented.

Inspr. No. 90209. Label: "Apple Cider, Maybelle Brand." Manufacturer, Gast-Crofts & Co., Louisville, Ky.; retailer, George Hadlock, Herington, Kan. Contained 6.17 per cent of alcohol by volume and 5.5 per cent of reducing sugars direct. Not a pure apple cider.

Inspr. No. 90210. Label: "Maybelle Brand Cider." Manufacturer, Gast-Crofts & Co., Louisville, Ky.; retailer, E. D. Smith, Herington, Kan. Watered. Not a pure apple cider.

Inspr. No. 90211. Label: "Apple Cider, Maybelle Brand." Manufacturer, Gast-Crofts & Co., Louisville, Ky.; retailer, J. W. Hutchinson, Herington, Kan. Similar to sample Insp. No. 90209.

Inspr. No. 90212. Label: "Cider, sweetened with cane sugar, syrup, imitation crabapple flavor." Manufacturer, Clarksville Cider Co., St. Louis, Mo.; retailer, M. G. Lathrop, Herington, Kan. Alcohol by volume, 6.17 per cent.

Inspr. No. 90213. Label: "Artificial Grape Cider." Manufacturer, Richard-Scheble Candy Co., Hutchinson, Kan.; retailer, M. G. Lathrop, Herington, Kan. Artificially colored with a coal-tar dye to give it the appearance of grape juice, when in fact it contained little or none of the normal constituents of grape juice.

Inspr. No. 90215. Label: "Maybelle Brand Apple Cider." Manufacturer, Gast-Crofts & Co., Inc., Louisville, Ky.; retailer, Fred Laughofen, Herington, Kan. Alcohol by volume, 5.94 per cent. Not a pure apple cider.

Inspr. No. 90224. Label: "Cider. Bull Dog Brand. Grape, Artificial Flavor and Color." Manufacturer, The Red Cross, St. Louis, Mo.; retailer, James Hulsapple, Scranton, Kan. Alcohol by volume, 9.45 per cent. Contained added sugars.

Inspr. No. 90230. Label: "Refined Apple Cider. Fermented and sweetened with Cane Sugar, and contains one-tenth XX Benzoate Soda." Manufacturer, The Morgan-Abbott-Barker Co., Inc., Louisville, Ky.; jobber, W. R. Smith & Son, Topeka, Kan. Re-

tailer, Sanders & Eyer, Topeka, Kan. Alcohol by volume, 6.32 per cent.

Inspr. No. 90235. Label: "Refined Apple Cider, fermented and sweetened with Cane Sugar. Contains $\frac{1}{10}$ of 1% Benzoate of Soda." Manufacturer, The Morgan-Abbott-Barker Co., Louisville, Ky.; jobber, W. R. Smith & Son, Topeka, Kan. Alcohol by volume, 6.63 per cent.

Inspr. No. 90236. Label: "Refined Apple Cider, fermented and sweetened with Cane Sugar. Contains $\frac{1}{10}$ of 1% Benzoate of Soda." Manufacturer, The Morgan-Abbott-Barker Co., Louisville, Ky.; retailer, John A. Freeman, Topeka, Kan. Alcohol by volume, 6.24 per cent.

Inspr. No. 90237. Label: "Refined Apple Cider, fermented and sweetened with Cane Sugar, contains $\frac{1}{10}$ of 1% Benzoate of Soda." Manufacturer, The Morgan-Abbott Barker Co., Louisville, Ky.; retailer, T. A. Curry, Topeka, Kan. Alcohol by volume, 6.02.

SWEET COCOA.

Inspr. No. 70258. Label: "Sweet Cocoa. Phillips' Digestible Cocoa. Compound of Cocoa, Sugar, Phosphates with Vanilla Flavoring." Manufacturer, Chas. H. Phillips Chemical Co., New York; retailer, C. W. Ewing, El Dorado, Kan. Not correctly labeled. Label has been corrected by manufacturers.

EVAPORATED APPLES.

Inspr. No. 70257. Label: "Evap. Apples. Our Pride Brand." Manufacturer, Simpson-Mintun Co., Fayetteville, Ark.; retailer, A. M. Routh, Hiattville, Kan. Not labeled showing bleached with sulphur dioxide.

EXTRACTS.

Inspr. No. 6774. Lemon Extract. Passed.

Inspr. No. 80205. Lemon Extract. Passed.

Inspr. No. 20437. Pineapple Extract. Passed.

Inspr. No. 20603. Vanilla Extract. Passed.

Inspr. No. 20605. Label: "Ext. Vanilla." Retailer, A. Jennings, Clay Center, Kan. Below standard.

Inspr. No. 20609. Ext. Vanilla. Passed.

Inspr. No. 6775. Vanilla Extract. Passed.

Inspr. No. 6781. Extract of Vanilla. Passed.

Inspr. No. 90136. Vanilla Flavor. Passed.

HONEY.

Inspr. No. 70248. Honey. Passed.

JELL-O.

Inspr. No. 90262. Passed.

OLIVE OIL.

The names olive oil, sweet oil, or salad oil, unqualified, mean pure olive oil.

Inspr. No. 20260. Passed.

Inspr. No. 20356. Label: "Sweet Oil." Retailer, Jacob Miller, Wathena, Kan. Contains a large amount of cottonseed oil.

Inspr. No. 20359. Pure Olive Oil. Passed.

Inspr. No. 20399. Olive Oil. Passed.

Inspr. No. 20401. Olive Oil. Passed.

Inspr. No. 20409. Label: "Sweet Oil." Retailer, G. M. Lindley, druggist, Lawrence, Kan. Not olive oil.

Inspr. No. 20421. Label: "Union Olive Oil." Manufacturer, Evans-Smith, Kansas City, Mo.; retailer, M. G. Reed, pharmacist, Cuba, Kan. Large amount of cottonseed oil present.

Inspr. No. 70174. Label: "Salad Oil. Crispino Extra." Manufacturer, Kenwood Preserving Co., Chicago, Ill.; retailer, Knollman Co., Leavenworth, Kan. Cottonseed oil present.

Inspr. No. 80290. Label: "Olive Oil." Manufacturer, Sadaki & Mushona, New York, Mo.; retailer, E. Cohlma, Wichita. Cottonseed oil present.

Inspr. No. 80291. Label: "Olive Oil." Manufacturer, J. J. Cassallie, Brooklyn, N. Y.; retailer, M. Farha, Wichita, Kan. Cottonseed oil present.

Inspr. No. 80292. Label: "Olive Oil." Manufacturer, Curtis Olive Oil Co., Los Angeles, Cal.; retailer, Hayden Bros., Wichita, Kan. Gave test for sesame oil.

PRUNES.

Inspr. No. 90264. Label: "Prunes. Dophne Brand." Jobber, The Symms' Groc. Co., Atchison, Kan.; manufacturer, Gugenhume Co., Cal.; retailer, O. M. Show, Dwight, Kan. These prunes when received were covered with small mites commonly known as itch mites.

RAISINS.

Inspr. No. 70236. Raisins. Passed.

RICE.

Inspr. No. 70206. Rice. Passed.

SAUCE.

Inspr. No. 70177. Worcestershire Sauce. Passed.

SUCCOTASH.

Succotash, as defined in F. I. D. No. 71, "is understood to imply that the product designated is composed of green sweet corn and green beans. If soaked beans or soaked corn—*i. e.*, dried beans or corn softened in water—are employed, the name should be accompanied by declaration of that fact, such declaration to be in type not smaller than eight point (brevier) capitals."

Inspr. No. 70226. Label: "Sun Flower Succotash. Extra Quality. Prepared with fresh corn and soaked beans." Manufacturer—packed expressly for the Dolan Mercantile Co., Atchison, Kan. Retailer, Brown & Fist, Holton, Kan. This sample bears a label, "Prepared with fresh corn and soaked beans"; but that label is in an inconspicuous place. Not correctly labeled.

Inspr. No. 70208. Label: "Paris Succotash, Net Wt. 20 Ozs. Serial No. 13107. This Succotash is a compound of Paris Sugar Corn and Dried Lima Beans." Packed by Burnham & Morrill Co., Portland, Me.; retailer, H. L. Randin, Hiawatha, Kan. The label is in large letters, "Paris Succotash"; and in small letters, in an inconspicuous place: "Extra Quality, Guaranteed by Burnham & Morrill Co., under the Food and Drugs Act of June 30. Serial No. 13107. This succotash is a combination of Paris Sugar Corn and Dried Lima Beans." Here again the fact that the product is made from dried lima beans is declared, but it is printed in an inconspicuous place.

POWDERED SUGAR.

"Granulated, loaf, cut, milled or powdered sugars are five different forms of sugar, and contain at least ninety-nine and five-tenths (99.5) per cent of sucrose."—Kansas Food and Drug Standards, page 30.

Inspr. No. 70232 Label: "Kamo Brand, 6X. Powdered Sugar, 13 oz. net weight." Ground and packed by Paxton & Gallagher, Omaha, Neb.; retailer, Geo. A. Love & Co., Marysville, Kan. Sucrose, 98.7 per cent; starch, 1.4 per cent. The package was labeled 2 per cent starch, on the bottom of the package. This illustrates an attempt on the part of the manufacturer to comply with the food regulations, but it is very seldom that the purchaser would look on the bottom of the package in order to see the label, which has the statement that the package contained 2 per cent of starch. It is held by the department that powdered sugar should contain no per cent of starch.

SYRUP.

Inspr. No. 9707. Syrup. Passed.

Inspr. No. 90185. Syrup. Passed.

TOMATOES.

Inspr. No. 70272. Tomatoes. Passed.

VINEGAR.

Inspr. No. 6786. Label: "Cider Vinegar. Acetic reduced to 4½ per cent." Manufacturer, Earll Manufacturing Co., Kansas City, Mo.; retailer, A. H. Glenn, Rosedale, Kan. Below standard. Vinegar sold in Kansas should be straight generator run, and not reduced.

Inspr. No. 6852. Label: "Distilled Vinegar Colored." Manufacturer, Earll Manufacturing Co., Kansas City, Mo.; retailer, J. Carr, Kansas City, Kan. Below standard.

Inspr. No. 70265. Label (inspr.'s): "Vinegar." Retailer, I. N. Roe, Kincaid, Kan. Below standard.

DRUG ANALYSIS No. XLVI.

L. E. SAYRE, Director; L. D. HAVENHILL, Chief; G. N. WATSON, Analyst; C. M. STERLING, Microscopist.

The following report contains the analyses of drugs made since those reported in the May BULLETIN. Attention is especially directed to the analyses of spirit of nitrous ether. Pharmacists are advised to make this preparation in small quantities and to keep it in small bottles protected from the light.

Samples of essence of peppermint which are deficient in oil continue to reach the laboratory. Pharmacists must not confuse the "drug standard" and the "food standard" for this preparation.

It is to be hoped that readers will give the extensive report on linseed oil in this number the attention that it deserves.

SPIRIT OF NITROUS ETHER.*

Insp. No.	NAME.	City.	Per cent ethyl nitrite.
20493A	Tom Lilly.....	Kansas City.....	.96
20493B	Tom Lilly.....	Kansas City.....	.44
20567	The Orpheum Pharmacy.....	Leavenworth.....	1.12
20556	J. H. Pinney.....	Dorrance.....	2.72
20592A	R. C. Hulburd (Ethical Drug Co. brand).....	Wamego.....	3.12
20592B	R. C. Hulburd (Ethical Drug Co. brand).....	Wamego.....	3.29

* Spirit of nitrous ether should contain at least 4 per cent ethyl nitrite.

SPIRIT OF CAMPHOR.*

Insp. No.	NAME.	City.	Per cent camphor.
20490	Scott Drug Co.....	Kansas City.....	11.1
20538	A. W. Wilson.....	Kanopolis.....	8.04
20547	City Drug Store.....	Oakley.....	11.2
20549	O. J. Benson.....	Gove.....	9.4
20550	J. W. Rhine.....	Gove.....	8.8
20554	Hays Drug Store.....	Hays.....	9.2
20562	A. W. Stevens & Co.....	Atchison.....	10.4
20563	J. M. Bowen & Co.....	Atchison.....	9.8
20577	Dr. J. W. Mulray.....	Hoyt.....	6.4

*Spirit of camphor should contain 10 per cent camphor and no added water.

WITCH HAZEL.*

Insp. No.	NAME.	City.	Per cent alcohol.	Methyl alcohol.
20446	Ideal Pharmacy.....	Greenleaf.....	13.80	None.
20483	F. W. Woolworth.....	Kansas City.....	12.5	None.
20499	J. E. Kantz.....	Rosedale.....	10.4	None.

* Witch hazel should contain about 14.2 per cent absolute alcohol.

ESSENCE OF PEPPERMINT.*

Insp. No.	NAME.	City.	Cc. oil in 1000.	Per cent added water.
20416	Clyde Drug Co.....	Clyde.....	1.6	None.
20481	Goin Drug Co.....	Kansas City.....	4.2	None.
20506	Mission Drug Co.....	Salina.....	3.9	20.2
20507	Solomon Drug Co.....	Solomon.....	6.9	2.0

* Essence of peppermint should contain 10 per cent oil and no added water.

BICARBONATE OF SODA.*

Insp. No.	NAME.	City.	Per cent NaHCO ₃ .
70240	Smith & Smith.....	Reece.....	99.6
70242	Ladd & Bailey.....	Eureka.....	99.7
70243	Layton's Health Club Soda.....	.....	99.7
70244	Harvest Home.....	.....	98.96
70245	Garland's Best Soda.....	.....	99.6
70246	Cow Brand Soda.....	.....	99.4
70247	Arm & Hammer Brand.....	.....	99.6
70256	White Loaf.....	.....	99.7

* Should contain not less than 99 per cent pure bicarbonate of soda.

TINCTURE OF IODINE.*

Insp. No.	NAME.	City.	Per cent KI.	Per cent I.
20543	A. E. Wallar.....	Delphos.....	4.68	6.80
20488	W. M. Bodine.....	Kansas City.....	5.22	6.68
20498	North Rosedale Pharmacy.....	Rosedale.....	3.87	5.97
20508	Carlin Supple Pharmacy.....	Solomon.....	4.02	6.16
20529	M. I. Smith.....	Luray.....	5.88	7.01
20570	C. W. Shreve.....	White Cloud.....	5.61	7.88
20574	Hardenbrook.....	Oketo.....	1.82	6.21

* Tincture of iodine should show by assay at least 6.86 gms. iodine and 5 gms. of potassium iodide.

BAY RUM.*

Insp. No.	NAME.	City.	Per cent alcohol.	Manufacturer.
20458	Rexall Drug Store.....	Junction City.....	56.7	U. S. Drug Co.
20479	D. G. Jones.....	Kansas City.....	45.2	
20534	S. H. Kress & Co.....	Salina.....	14.8	Park & Co., N. Y.

* Bay rum should contain 56 to 58 per cent alcohol; should contain no sediment, and should compare with standard in amount of oil.

TINCTURE OF GINGER.*

Insp. No.	NAME.	City.	Per cent alcohol.
20466†	T. A. Prouse.....	Kansas City.....	87.2
20470	Reagan Bros.....	Leavenworth.....	86.8
20496	W. E. Bodley.....	Kansas City.....	91.5
20561	Byrnes Pharmacy.....	Atchison.....	90.0
20565	Cleverdon Bros.....	Leavenworth.....	85.8
20569	Norris & Collard.....	Olathe.....	87.9

* Tincture of ginger should contain about 91 per cent alcohol.

† Contained no oleoresin.

HYDROGEN PEROXIDE.*

Insp. No.	NAME.	City.	Solids.	Acidity Cc. N/10 NaOH.	Per cent H ₂ O ₂ .
20471	Mehl & Schott.....	Leavenworth.....	.0852	3.2	8.00
20558	C. A. Keasler & Co.....	Topeka.....	.0246	1.5	8.00
20559	Crosby Bros.....	Topeka.....	.0262	1.1	3.00

* Peroxide of hydrogen should contain 3 per cent H₂O₂; total solids from 20 cc. of the preparation should not exceed 0.98 gm., and should otherwise conform to U. S. P. requirements.

POWDERED ASAFETIDA.

Insp. No.	NAME.	City.	Per cent ash.	Per cent alcohol soluble.	Dryer.
80838	C. E. Potts.....	Wichita.....	28.5	51.8	Chiefly MgCO ₃ .
80833	C. E. Potts.....	Wichita.....	78.8	18.3	
80828	Southwestern Drug Co.....		9.0	38.6	Starch.
20673	W. K. Russell.....		10.04	38	Whole wheat.
20604	Ponayo Drug Store.....	Clay Center.....	24.01	55.1	CaCO ₃ .
20225	Doty Drug Co.....	Cunningham.....	24.8	56.95	

* Asafetida should contain at least 50 per cent alcohol soluble material and the ash should not exceed 10 per cent.

GLYCERITED ASAFETIDA.

Insp. No.	NAME.	City.	Per cent ash.	Per cent alcohol soluble.
80835	Shelley Drug Co.....	Wichita.....	50.2	39
80834	Shelley Drug Co.....	Wichita.....	54.9	33.2
80672	J. H. Ellis.....	Highland.....	34.2	58.0

Insp. No. 20384. "Oil of Anise." City Drug Store, White City. Insufficient quantity to determine specific gravity. Congealing point, about 15.2°. Soluble in equal volume of alcohol. Neutral alcoholic solution gives no color with ferric chloride. Refractive index, 1.4820. Rotation, .04°. Oil of anise should be lævogyrate. No alcohol was detected.

Insp. No. 20389. "McGraw's Oil of Life." The McGraw Remedy Co., Parsons. Sample contained about 70 per cent mineral oil. The greater part distilled between 175° and 250°. Volatile vegetable oils were present.

Insp. No. 20411. "Carbolic Acid." C. E. Strawn, Lecompton. Contained 90.4 per cent phenol. Negative test for cresols. Non-volatile residue, .02 per cent.

Insp. No. 20424. "Oil of Thyme." Thomas H. Shedden, Formoso. Specific gravity, .9024. Contained 37.3 per cent phenols. Soluble in one-half volume alcohol. Negative test for official phenol.

Insp. No. 20429. "Humane Corn Cure." Jas. W. Gauerholz, Kensington. Consisted of crude heavy oils of petroleum.

Insp. No. 20433. "Elixir I. Q. & S. Phosphates." Contained 12.1 per cent alcohol. Total alkaloids, .530 gm. per 100 cc. Total solids, 32.050 gm. per 100 cc.

Insp. No. 20497. "Ward's Method for Coughs and Colds" Label: "Ward's Method for Coughs and Colds, and all bronchial troubles. A combination of white pine bark (balsam poplar buds, balm of gilead), wild cherry, sanguinaria, spikenard root, sassafras, menthol and pine tar." Contained chloroform, alcohol, wild cherry. Gave slight test for alkaloid. No sassafras was detected. Chloroform and alcohol not declared.

Insp. No. 90186. "Gran-O-Co, a Coffee Substitute." Manufactured by the Kansas Cereal Co., Wichita, Kan. Declared to be a nutritious and nonstimulating beverage; to contain no chicory, coffee or other harmful elements, and may therefore be used as freely as pure water. Gran-O-Co was found to be composed of a roasted mixture of rye, bran and molasses.

Insp. No. 34. "Hand's Colic Cure." Dr. G. S. Wiley, Freeport. Sample thought to have poisoned child. No alkaloids, chloral or chloroform detected. Asafoetida, oil of anise, sassafras and potassium bicarbonate were detected.

Insp. No. —. "Asthma Remedy." Found to contain sulphur, starch, potassium nitrate, and coloring matter.

Insp. No. —. "Almeda." A beverage. Found to contain 3.7 per cent alcohol.

LINED OIL.*

Insp. No.	NAME.	City.	Sp. gr.	Sapon. value.	Drying test.	Ref. index.	Iodine value.	Jobber or manufacturer.	Remarks.
20604	Kansas Paint Co.	Kansas City	.882	194.10	Not satisfactory	1.4833	181.60	A. M. Hughes	
20610	Edgerton Lumber Co.	.....	.881	191.60	.....	1.4836	176.00	Archer-Daniels	
20611	Stanley Lumber Co.	.....	.882	191.60	.....	1.4830	176.06	Archer-Daniels	
20610	Ladig & Harcus	.....	.881	191.40	36 hours.	1.4832	174.62	Archer-Daniels	
20611	C. Vandervill & Son	.....	.881	192.10	.....	1.4804	173.42	Wright & Hill	
20612	Phelps Drug Co.	.....	.881	191.80	.....	1.4828	178.42	Spencer Kellogg	
20612	Lincoln Hardware Co.	.....	.878	188.50	20 hours.	1.4823	176.80	Acme White Lead	
20623	Lincoln Center	.....	.886	97.50	.....	1.4883	96.80	Central Lined Oil Co.	Below standard.
20623	A. E. Aterburg	.....	.883	196.09	.....	1.4708	181.23	American Lined Oil Co.	Below standard.
20627	I. Lowder	.....	.883	101.70	.....	1.4705	60.62	Montgomery Ward & Co.	Below standard.
20644	Meagher Bros.	.....	.886	101.70	.....	1.4705	60.62	Great Eastern Oil & Paint Co.	Below standard.
20645	Meagher Bros.	.....	.882	90.60	.....	1.4758			Below standard.
20678	G. Thomas Lumber Co.	.....	.881	107.23	72 hours.		181.23	Sherwin William	
20678	G. Thomas Lumber Co.	.....		186.60	.....		171.20		
20681	Dunkel's Dept. Store	.....	.885	196.40	.....		106.80	American Lined Oil Co.	Below standard.
20681	C. A. Stannard	.....	.826	110.80	48 hours.			Fredonia	
20686	McFarland Lumber Co.	.....	.884	197.90	.....	1.4680	104.62	Great Eastern Paint & Oil Co.	Below standard.
27905E	Independent Oil Co.	.....	.887	115.80	.....		59.71	M. A. Hulbert Co.	Below standard.
207910E	Wright & Armstrong	.....	.891	107.87	.....	1.4690	55.21	M. A. Hulbert Co.	Below standard.

* Lined oil should conform to standard published in BULLETIN No. 6, 1912.

BOILED LINSEED OIL.*

Insp. No.	NAME.	City.	Sp. gr.	Sapon. value.	Drying test.	Ref. index.	Iodine value.	Acid value.	Manufacturer or jobber.	Remarks.
20461	G. E. Waters Hdw. Co.	Junction City	.8860	186.50	20 hrs.	1.4843	172.42	4.70	Archer Daniels	
20465	A. L. Boese	Kansas City	.9320	184.35	.....	1.4843	175.13	2.57	Archer Daniels	
20486	Leinbach Wall Paper and Paint Co.	Kansas City	.8850	194.11	20 hrs.	1.4844	180.00	5.10	Midland	
.....	Springhill Lbr. Co.	.....	.9304	185.30	20 hrs.	1.4845	172.70	.....	Archer Daniels	
.....	Linwood Lbr. Co.	.....	.9300	184.00	20 hrs.	1.4843	169.90	.....	Archer Daniels	
.....	Bonner Springs Lbr. Co.	.....	.9300	192.30	20 hrs.	1.4850	167.39	.....	Archer Daniels	
20512	Meagher Bros.	Solomon	.9038	160.30	.....	1.4843	93.79	.....	Minn. Linseed Oil Wks.	Below standard.
20515	H. H. Koch	Enterprise	.8940	107.20	.....	1.4773	98.20	.....	Gt. Eastern Oil & Paint Wks.	Below standard.
20516	J. F. Buhrer	Enterprise	.9330	193.60	20 hrs.	1.4833	174.37	.....	H. D. Lee, Salina	
20518	M. I. Co. drugs	Beverly	.9350	192.30	.....	1.4843	176.60	.....	Acme White Lead	
20519	Arkansas Lbr. Co.	Beverly	.8812	93.30	.....	1.4753	99.46	.....	Hulbert & Co.	Below standard.
20520	Saenger Bros. Hdw. Co.	Sylvan Grove	.8864	110.08	.....	1.4715	74.91	.....	Hulbert & Co.	Below standard.
20521	Behrhorst Bros.	Sylvan Grove	.9330	186.7	48 hrs.	1.4843	182.40	.....	Archer Daniels	
20524	Lincoln Hdw. Co.	Lincoln Center	.8750	103.10	.....	1.4753	97.35	.....	Central Linseed Oil Co.	Below standard.
20526	A. E. Aterburg	Lincoln Center	.8799	90.57	20 hrs.	1.4755	93.00	.....	Am. Linseed Oil Co.	Below standard.
20528	Walmer Carbiennier Merc. Co.	Lucas	.8390	196.00	20 hrs.	1.4853	177.63	.....	H. D. Lee	Below standard.
20536	Sturgis Bros	Kanopolis	.....	95.30	48 hrs.	1.4710	105.12	.....	.....	Below standard.
20537	Lake Sup. Lbr. Co.	Kanopolis	.9250	164.00	20 hrs.	1.4770	151.30	.....	.....	Below standard.
20540	Churchill Hdw. Co.	Oakley	.9400	195.09	20 hrs.	.....	123.41	.....	.....	Below standard.
90206	.....	.....	.8163	164.00	20 hrs.	.....	171.30	.....	.....	Below standard.
20530	M. L. Helms	Silver Lake	.9287	195.09	20 hrs.	.....	93.10	.....	.....	Below standard.
20533	W. J. Rosser & Co.	Carbondale	.9010	110.33	48 hrs.	.....	171.80	.....	Acme White Lead	Below standard.
20538	Belyue Merc. Co.	Belyue	.9310	199.20	20 hrs.	.....	172.70	.....	.....	Below standard.
20537	J. C. Case	Belyue	.8796	127.11	20 hrs.	.....	92.40	.....	.....	Below standard.
20534	Chas. P. Barker	Maple Hill	.8860	159.20	.....	1.4780	115.10	.....	.....	Below standard.

*Boiled linseed oil should conform to standard published in BULLETIN No. 5, 1912.

Lantern Slides to Loan.

The State Board of Health accumulated quite a number of stereopticon slides during the three years' educational campaign with the traveling exhibit and illustrated lectures. It has been decided to continue the use of the slides in the publicity and educational work of the Board; therefore we will be glad to loan any number of them to any responsible citizen of the state who will use them for the purpose of giving a free lecture. Express charges must be paid both ways and the actual cost of the slide paid in the case of breakage. Order by number and subject, and give date when they are expected to be used.

The following are available at present; others will be added if the demand will justify:

Slide No.

TUBERCULOSIS.

10. Open-air school.
- B11. Open-air living room.
- C11. Prevalence of consumption in United States. (Colored.)
12. Tubercular udder and lymph glands of a cow.
13. Dangerous tubercular cow. (Duplicate.)
14. Tent colony.
15. Interior of open-air sleeping porch.
16. Tuberculosis sanatorium.
17. Tubercular mother and her children.
18. Tuberculosis dispensary.
19. A tubercular father.
20. Well-ventilated sleeping room.
21. A visiting nurse.
- 22½. Cure.
23. Economies of tuberculosis, statistical. (Duplicate.)
24. Cheap shack for tubercular patients.
25. The thorax.
26. Tubercular meningitis.
30. Cheaply constructed open-air bedroom.
31. Cure.
37. Smoke stops up lungs.
46. Tuberculous ulcer—intestine, internal.
47. Larynx cut open, showing internal parts.
48. Anteroposterior section of larynx. (Duplicate.)
49. Tuberculosis of larynx—"turban-shaped" epiglottis.
66. Sleeping porch.
217. Tubercle bacilli.
218. Intestinal lesion in uncinariasis.
219. Specimen of tubercular lung.
220. Air cell of lung—first accumulation of tubercle bacilli.
221. Section of lung showing bronchioles.
222. Cheesy destruction of an air cell.
223. The tubercle bacillus in the lung tissue.

Slide No.

224. Tubercular sputum.
225. Miliary tuberculosis.
226. The larynx.
227. A "little mother" and her baby.
228. Group of "lung-block" children.
229. A "lung-block" resident.
230. Consumption is a house disease.
231. How consumption is spread.
232. Getting well in the desert.
233. Window tent in a crowded quarter.
234. Ventilation principle of window tents.
235. Statistics of tuberculosis: Number of deaths per 100,000 by color and sex.
236. Statistics of tuberculosis: Comparative deaths from tuberculosis in Indian, negro and white.
237. One death to every light flash—one every 2 minutes 36 seconds, from tuberculosis.
- 237½. New consumption graves every year—statistical.
238. Diagram showing money appropriated by Pennsylvania for fighting tuberculosis.
239. Ratio of deaths from tuberculosis in the United States to deaths from "black death" in India.
240. Statistical history of tuberculosis-infected farmhouse.
241. Statistics of tuberculosis: Number of deaths to 100,000 as to age and occupation.
242. Dark room, with the tuberculosis exhibit.
243. Light room, with the tuberculosis exhibit.
244. A section of the tuberculosis exhibit.
245. A New York exhibit.
246. R. Koch, discoverer of the tubercle bacillus.
247. Bacilli in air cell.
265. Dr. Robert Koch, discoverer of tuberculosis bacillus.
267. Method of spread of tuberculosis bacillus.
268. Bacillus tuberculosis.
269. Section of lung, showing tuberculosis bacillus.
270. Tuberculosis, how spread.

TUBERCULOSIS MOTTOES.

1. Don't spit on the floors —.
2. Consumption is caused by —.
- 2½. Consumption is caused by —.
3. Medicine will help, but —.
- 4½. Consumption attacks those —.
4. Sleep with your windows open —.
5. If you suspect that you have consumption —.
- 5½. A little poisonous spit —.
6. If you are beginning to feel tired —.
- 6½. Consumption is caused by —.
7. Go at once to your family physician.

Slide No.

8. Fresh air.
9. Don't live, work, sleep, where there is no fresh air.
10. Don't spit on stairs.
11. If you have consumption.
13. He is a danger —.
14. A consumptive who coughs and spits —.
15. If he will not stop spitting —.
16. A consumptive should spit —.
17. A careful consumptive —.
18. Be kind to the consumptive —.
21. In dark, damp or poorly ventilated rooms —.
23. See that you have fresh air —.
26. The trouble now is —.
30. Don't waste time or money —.
50. People who spit —.
51. Consumption spread by careless spitting —.
52. Few people were ever benefited by the use of alcohol —.
53. They brace you up for a while —.
54. Self-indulgence and intemperance are very bad.
55. Spitting on the floors —.
56. Don't spit on the sidewalks.
57. Alcoholic drinks are particularly bad.
58. The only consumptive to be afraid of is the careless consumptive.
59. A consumptive who coughs —.
60. Stop spitting except into spittoons —.
61. If you want to know how to protect yourself —.
266. Signs of the times.
274. One minute, please.

DAIRY AND MILK.

147. A filthy exterior.
148. An unsanitary cow barn.
149. Interior of poor milk room.
150. Dirty, untidy milk house.
151. Following the letter but not the spirit of the dairy law.
152. Children washing milk bottles.
153. A clean barnyard and a well-lighted barn.
154. Good type of inexpensive milk house.
155. A neat, inexpensive bottling room.
156. Cleaning cows before milking.
157. Clean, sanitary milking costume.
158. Sanitary milking and clean surroundings.
159. Bad natural springs situation.
160. Good natural springs situation.
161. Diseased cow.
162. Relation of milk routes to typhoid—statistical.
273. Clean and unclean milk.

PATENT MEDICINES AND QUACKS.

Slide No.

- 32. Patent medicines do not cure consumption.
- 34. Consumption cures do not cure consumption.
- 62. The principal quack morphine cures.
- 63. Letters for rent advertisement.
- 64. Letter brokerage.
- 65. Remedies containing acetanilid.
- 66. Catarrh powders and cocaine.
- 67. Habit-producing patent medicines.
- 68. Typical drug-addiction cures.
- 69. "Hydrozone" a rival to "Liquozone"—a yellow fever preventive.
- 70. Dr. King's consumption cure.
- 71. Quantity of confidential letters for rent.
- 72. Alcohol in medicines and in liquors.
- 73. The fake home of a fake medicine—316-322 E. 6th.
- 74. The actual appearance of 316-322 E. 6th.
- 75. Catarrh cures containing cocaine.
- 76. Pierce and Peruna—a group of testimonial letters.
- 77. Soft drinks containing caffeine and cocoa-leaf extract.
- 78. Anti-patent-medicine placard.
- 169. A strongly-endorsed quack—A. M. Curry, M. D.
- 170. Rupert Wells, M. D., a proprietor of religious journals.
- 171. Dr. Chester Madison, of Chicago—the eye quack.
- 172. Madison's theft from a standard book.
- 173. Father and founder of a family of quacks—Dr. D. M. Bye.
- 174. A chip off the old block—Benj. F. Bye, M. D.
- 175. Front page of Dr. Bye's fake cancer cure.
- 176. Dr. Bye's office as advertised.
- 177. Dr. Bye's office as it is.
- 178. Some patent-medicine advertisements.
- 179. An acetanilid death record.
- 264. Patent nostrum—before and after taking.

THE FLY.

- 27. Fly cartoon. (Duplicate.)
- 40. Enlargement of common house fly.
- 41. Tracks of fly on agar plate. (Duplicate.)
- 43. *Musca domestica*—life cycle of fly.
- 44. Tsetse fly and Protozoa.
- 190. A good breeding place for flies.
- 191. Maggots and eggs.
- 192. Pupæ and eggs.
- 193. Privy vaults swarming with flies near kitchen doors. (Duplicate.)
- 194. Our first summer boarders. (Cartoon.)
- 195. The fly at bar. (Cartoon.)
- 195A. The fly at the bar.
- 32. Blowfly.
- 58. Village house. (Colored.)
- 279. Fly tracks incubated.

Slide No.

- 230. The typhoid fly.
- 231. Ke-ping flies off the table.
- 232. The city and the fly.

GENERAL SANITATION AND HEALTH.

- 1243. Cheap milk store. (Duplicate.) (Also No. 28.)
- 11. Crowded living room.
- 3. Living room.
- 7. Statistical.
- 54. Well-kept back yard.
- 22. Weedy back yard, outhouse, and manure pile.
- 35. Sweeping with child on floor.
- 36. Soothing syrup quiets baby.
- 15. Tent in tree.
- 25. From which well would it be safe to drink? (Colored.)
- 29. Crowded home conditions.
- 30. Overcrowded, unsanitary home—continued.
- 47. Cupboard beds.
- 31. The ruddy glow of health.
- 32. Health at all ages.
- 33. Sweeping with baby on the floor.
- 34. A well-kept, sanitary back yard.
- 35. Sleeping tent in a tree.
- 36. Illegal sidewalk display.
- 37. Health and the home. (Cartoon.)
- 38. Dyspeptic Uncle Sam. (Cartoon.)
- 39. People versus hogs. (Cartoon.)
- 88. Normal versus displaced liver and stomach in tight lacing.
- 89. Normal versus abnormal body form.
- 90. Interior view normal and displaced abdominal organs.
- 91. Tight lacing.
- 92. Curvature of the spine.
- 51. An undrained pond.
- 52B. An undrained pond.
- 93. Tumor from corset wearing.
- 94. Lacing form—abnormal.
- 95. Correct form—normal.
- 96. Correct lines of form—woman.
- 97. Correct lines of form—man.
- 98. Flat-chest versus full-chest form.
- 99. Examples of abnormal organs out of place.
- 100. Tight lacing.
- 101. Normal versus wasp waist.
- 141. Corset evils.
- 261. Smoke stops the lungs.
- 272. Street fruit stand.
- 275. Common drinking cup on train.
- 276. Modern sanitary fountain.

Slide No.

MISCELLANEOUS.

125. Necrosis of skull.
126. Necrosis of top of skull.
127. Ulcer of skin.
128. Spleen.
129. Fatty cirrhosis.
130. Gonococcus.
131. Epididymus.
132. Purulent ovaritis.
133. Spinochete.
135. Fallopian tube—healthy.
136. Fallopian tube—diseased.
137. Fecal slide ready for microscopical examination.
138. Necator Americanus (American hookworm).
139. Necator Americanus and ankylostoma duodenale.
140. Ophthalmia neonatorum.
142. Green-bug parasite.
143. Green bug.
144. Chinch-bug fungus.
145. Chinch bugs.
146. San José scale.
181. Diphtheria bacilli.
182. Diphtheria.
196. Kissing.
197. Lord Lister, father of antiseptis.
198. Edward Jenner, father of vaccination.
199. Dr. Wiley, pure-food expert.
253. Food and drug laboratories, Kansas University.
254. Hospital ward.
40. War versus cleanliness.
255. Ankylostoma (parasite).
256. Phagocytosis.
257. A group of immigrants.
260. Governor Stubbs' home.
66. Types of adenoid faces.
262. Methods of polluting well water.
263. Proper and improper curbing of wells.
271. Prevention of disease.
277. A mouth-breather.
278. Adenoids—mouth-breathing.

SMALLPOX.

54. Smallpox—Jenner. (Miers).
55. This man was never vaccinated.
56. He was never vaccinated.
57. Three-day smallpox.
58. Six-day smallpox.
59. Twelve-day smallpox.
61. Smallpox versus chickenpox. (Colored).

MOSQUITOES AND MALARIA.

Slide No.

102. Anopheles—female.
103. Anopheles—posture on wall.
104. Culex and Anopheles—posture when at rest.
105. Stegomyia calopisus—yellow-fever mosquito.
106. Stegomyia—female.
107. Stegomyia—male.
108. Life cycle of malarial organism.
109. Section of mosquito, showing malarial organism. (Duplicate.)
110. Malarial organism in red blood corpuscles.
111. Geographical distribution of malarial fever.
112. The four forms of malarial parasites.
113. Plasmodium vivax.
114. Top minnows } especial enemies of mosquito larvæ.
115. Stickleback }
116. Dr. Ronald Ross, hero of mosquito theory of malaria.
117. Walter Reed, hero of mosquito theory of yellow fever.

SYPHILIS.

83. Chancre on penis.
84. Hereditary syphilis.
85. Ruptural and ulcerating tubercular syphilide.
86. Pustular syphiloderm.
87. Chancre on lip.

FOODS.

79. Percentage composition of a potato.
80. Use of milk as a food.
81. Percentage of nutrients not absorbed in some typical foods.
82. Effect of boiling or other heat on the cellulose walls of potato cells.
180. Relative food values of a few staples.

HOOKWORM.

118. The hookworm enlarged.
119. Sections of hookworm.
120. Young hookworm in skin.
121. Life cycle of hookworm.
122. Hookworm egg center.
123. Doderatis attached.
124. Severe case of hookworm in sixteen-year-old boy.
134. Stages in development and varieties of hookworm.
247. Hookworm girl.
248. Hookworm boy.
249. The "first citizen" of his locality and his family—(hookworm).
250. Hookworm clinic in Porto Rico.
251. "Hookworm Stiles." (Dr. Stiles, discoverer of American species of worm.)

Slide No.

PELLAGRA.

- 163. Pellagra hands.
- 164. Pellagra—fresh erythema.
- 165. Pellagra—erythema of hands and face.
- 166. Pellagra—dry erythema.
- 167. Pellagra—with possible syphilis.
- 168. Pellagra—near death.

INFANTILE PARALYSIS.

- 183. }
- 184. } Views of effects of the paralysis.
- 185. }
- 186. }
- 187. Ruby: Polio-acuta at age of 2; now 10—back.
- 188. Ruby: Polio-acuta at age of 2; now 10—front.
- 189. Anterior poliomyelitis.

Report of Feeding Tests and Bacteriological Examination of Frozen Eggs.

To the Kansas State Board of Health:

GENTLEMEN—The most logical way of determining whether or not a food product has an injurious effect upon the human system is to feed the product in sufficient quantity and for a long enough time to bring about physiological disturbance in case of unwholesomeness. Some excellent foods are of such nature that, taken in moderation, they are beneficial, but taken in excess they are harmful; so that in making feeding tests this fact must be considered in determining the quantity to be eaten at any one time. By sufficient quantity, as used here, is meant an amount somewhat greater than that consumed by the ordinary person in normal life. While it is hard from a test to determine exactly what the daily average consumption of eggs is, as used in cakes, puddings, etc., as well as in omelets and the like, it is assumed that the average amount used in the feeding experiment to be described—approximately three and a half eggs per day per man—is at least no less than that used normally, and probably is greater. In any event it is certain that an amount of material equal to three and a half eggs per day would cause serious disturbance, if ingested, were such material decomposed or putrid in the customary acceptance of those terms, or were toxic products present in the quantity to be expected in so much material acted upon by bacteria.

Other tests for wholesomeness than the test of actual feeding have sometimes been used, and while they may possibly have some value under certain circumstances, they have unpardonable shortcomings in a test like this. As has been indicated by Professor Sedgwick,* for example, experimental animals, when inoculated with a food product designed to be subjected to the action of the digestive juices before being absorbed, do not necessarily constitute reliable tests for the wholesomeness of such a product.

* Journal Am. Med. Assoc., Oct. 28, 1912.

Bacterial numbers, *per se*, do not determine the degree of wholesomeness of food, when the numbers do not represent kinds that cause pathogenesis in man when taken with food. Some most excellent foods have an enormous bacterial content, and can be eaten in large amounts without other than beneficial results—for instance, much of the market milk, milk and cream products, and certain other fermented foods. Fresh eggs, though usually sterile, sometimes contain large numbers of bacteria, but it has not been shown that such bacteria are harmful ~~when eaten~~ with the egg. Frozen eggs contain ~~bacteria~~ in considerable numbers, but it is doubtful if they are of a kind that, having developed under the conditions imposed by the canning and freezing process, are injurious to man when taken into his digestive tract. In other words, the determination of the kinds rather than the number present is important, but of equal importance is the actual feeding of the egg and the contained organic life, both raw and cooked, to people.

The experiments to be described were made with some frozen eggs that were packed in Kansas and seized under the United States food and drug law—months later—because of an alleged decomposed condition and consequent unfitness for food. The tests were conducted in the bacteriological laboratory of the University of Kansas at the request of the State Board of Health. They were conducted along two lines: actual feeding of the eggs three times a day to a squad of six men students for seventeen days; and bacteriological examination to determine the number and kind of bacteria present, and the nature of the fermentation.

The food squad was selected with no other qualifications than ability to eat fresh eggs without physiological disturbance, together with general good conditions of health. Each member agreed to eat at least the egg products served at the table and to refrain from eating anything during the course of the experiment except the meals regularly served to the squad. It was the policy to have each meal well balanced and prepared, both as to cooked and uncooked foods, so that it would be anticipated and enjoyed by the men. A good cook was engaged, and three meals per day were served from March 26 to April 12, inclusive.

The following are sample meals: Breakfast—fruit, cereal, bacon (sometimes with egg), potatoes, corn bread or muffins, and cocoa. Dinner—soup, meat, potatoes, vegetables, bread and butter, tea, dessert, apples. Supper—egg (omelet or scrambled), hot bread, syrup, potatoes, sauce, cake, and cocoa. The breakfasts provided egg as egg, or in the hot bread; the dinners provided it in the custards, floating island, custard pie, or in egg used raw mixed with cream and flavor and served frozen. It was in this last-mentioned dessert that the bacteria in the egg were ingested in a living condition. Supper supplied the egg as egg, in the hot bread and in the cake.

The frozen egg used by the cook for the squad was weighed out, so that the total amount consumed was determined. On a basis of fresh eggs, the average amount of frozen egg consumed by each man was the equivalent of $3\frac{1}{2}$ eggs per day, or in all probably more than would enter into the dietary of the average person.

The health of the members of the squad was watched during the investigation by recording temperature and weight before each meal, together

with any departure from usual health. Blood counts and blood pressure were taken at the beginning and at the close.

The records were examined and summed up at the end of the seventeen days, when it was found that no temperature indicated fever in any member of the squad. The weights showed that all but one had gained in weight from $1\frac{1}{2}$ to $3\frac{1}{4}$ pounds; the one who did not gain weighed the same at the end as at the beginning. As to general health, it was recorded that two had a slight headache, one each, and one had a slight headache twice. Two had colds, one each. A question at once arises as to the amount of blame that may be laid upon the egg for the above lapses from normal health, or whether during the period of seventeen days an equal number of complaints might not be expected under normal conditions from six men. It is noteworthy that no one had any disorder of the digestive tract—a type of ailment that generally accompanies the ingestion of decomposed or putrid food, or food that has been acted upon by dangerous types of bacteria.

The blood count showed that one man was slightly anæmic at the beginning of the experiment, but at the close the count had increased a little, indicating that the diet had no deleterious effect in this respect. The counts of the other men showed either no change or else slight increase.

The blood-pressure readings (unusually high in one individual) showed no abnormal condition in any of the squad at the close that was not present at the beginning. The case in which the pressure was unusually high showed a favorable decrease at the close of the experiment.

The consensus of opinion of the members of the food squad was that all the cooked articles containing egg were uniformly excellent and palatable, differing in no respect, so far as could be detected, from similar articles made with the use of fresh eggs. The egg served as omelet or scrambled egg, while eaten without a complaint, was regarded as not so palatable as fresh eggs, because of the sweetish taste due to the sugar that formed an ingredient of the canned product. As frozen eggs are not prepared for direct table use, but for use in bakery products, objection to the sweet taste has no weight when it comes to a question of proper use of the product or to its wholesomeness.

GENERAL TESTS FOR PUTREFACTIVE FERMENTATION.

The first can of frozen eggs was received March 26, 1913, in a frozen condition. The odor of the freshly opened can was slightly eggy, but no odor even suggestive of decomposition could be detected. Some of the egg was thawed quickly and served as egg at supper on March 26. The can was placed in a refrigerator, the temperature of which was 8 degrees $8\frac{1}{2}$ centigrade. The next day it was still frozen, except a thin layer of thawed egg next to the can. The following lots were then removed from the center of the frozen mass and placed at once in the room that served as a combined kitchen and dining room: One pint milk bottle nearly full, left uncovered and exposed; one quart pitcher, nearly full, also uncovered and exposed; one two-liter flask, previously sterilized and left half full, and kept stoppered with cotton. A similar flask, half filled, was kept in the refrigerator beside the can of egg. The contents of the milk bottle, pitcher and flasks were examined daily for odor and physical appearance. The odor was determined from the egg as it lay in the containers, and at intervals by whipping. Cake was made at intervals from the egg in

the pitcher, and the odor of the heated oven containing the freshly cooked cake was determined. The hot cake was broken open and the odor noted. In all instances there was not the slightest evidence of any putrid odor. The cake was then eaten and the taste noted. The cake made from the egg that had been exposed to room temperature for seventeen days was appetizing as to odor and taste.

Fermentation of the thawed egg occurred sooner, or later—sooner at room temperature and later at ice-chest temperature. At room temperature an odor similar to that of sour milk was evident within three days, along with the customary eggy odor. After four days a yeasty odor was noticeable, and this was followed by that of alcohol. A bacteriological examination showed an increase in bacterial content and also the presence of yeasts. The acidity rose, which, with the presence of alcohol and yeasts, showed that the sugar was being attacked by both bacteria and yeasts. The amount of acidity in the egg was such that the cake batter made from it had to be treated with soda, similar to that made with sour milk. The acidity, however, was undoubtedly one of the chief causes preventing putrefactive fermentation and decomposition in the egg.

Another fermentation followed the alcoholic, as might be expected, namely, the acetic. The percentage of acidity reached its height (20 per cent, Fuller's scale) during this fermentation.

The egg in the ice chest attained the sour-milk odor after about four or five days, while the yeasty and acetic acid odors did not appear at all, probably due to unfavorable temperature. The consistency of the egg became thinner, as could be noted upon drawing the egg into a pipette, or upon shaking the flask.

The second shipment of egg was received March 31, and a flask of the still frozen product was placed at room (kitchen) temperature, and another at ice-chest temperature. Observations were made as with the first sample, with no different results.

In order to see if high temperature would induce putrefaction, a sample can was placed in an incubator at blood heat, but no putrefaction that could be detected took place.

BACTERIOLOGICAL EXAMINATION.

Bacteriological examinations were made forty-eight hours apart, when counts were made and strains of bacteria isolated. Bacteria and yeasts multiply after the egg thaws and attains room temperature, resulting in the production of acids and gas. The presence of the sugar stimulates types of organisms that not only do not cause but inhibit putrefactive fermentation with its attendant foul odors.

There is every reason to believe from the feeding tests on the food squad, and from the types of bacteria present, that the presence of large numbers of the kinds found had no more deleterious effect on health than a similar number found in the ordinary market milk. There is this wide difference, however, between market milk and frozen eggs—one is liable to be ingested raw, the other is not.

Attention is here called to the use of the egg in the case of the food squad and the use that would be made of it by a baker. In the one case the egg was left out in a warm room for over two weeks. A baker

would scarcely treat his egg material that way. He would, at least, place it in an ice chest, and probably use it up within a few days. Egg in the frozen condition with sugar apparently undergoes no change that would unfavorably affect health when it is later thawed and made into bakery supplies. It is reasonable to suppose that if it keeps, frozen in cold storage, two years, it would keep any number of years. It is certain that good cake and custards can be made without the use of fresh eggs, and that they apparently lack nothing in wholesomeness when compared with the kind made from the choice hennery variety.

Moreover, when a change does appear in frozen egg, due to thawing and undue exposure in a warm place, the change is not of a kind that can be considered as putrefactive in the common acceptance of that term, nor is the change of a nature that causes physiological disturbance when the product is eaten either cooked or uncooked.

Thanks are due Dr. John Sundwall, T. P. Chillingworth and Prof. N. P. Sherwood for making blood counts and recording blood pressures, and Prof. B. J. Clawson for bacteriological work.

Respectfully submitted. F. H. BILLINGS.

Epidemiological Investigations During August.

Investigation of case of poliomyelitis acuta at Wellington.

Investigation of epidemic of poliomyelitis acuta at Parsons.

Beginning of investigation at Parsons of twenty-three typhoid fever cases, confined to one part of city and evidently, due to a common source.

Stomach Trouble.

How often we hear this term "stomach trouble." Did you ever have it? If you have, you know what a humbler it is. How effectually it humbles one's pride, how thoroughly it dissipates one's egotism. Yet stomach trouble is not a wholesome discipline, for the longer it continues the grouchier and more impossible we become. The stomach these days is a sort of garbage can. It is suspended by straps immediately south of the thoracic cavity, and being connected with that funnel called the mouth by a good strong tube, it readily catches chunks of dead animals, lumps of poorly baked bread, boluses of vegetables, ices, pickles, soggy pies, weinerwurst, booze, and muddy coffee. The tobacco eaters add that portion of tobacco juice which they do n't use for flooding sidewalks.

There is no more patient and long-suffering organ in the human body than the stomach. It is amazing how long it will stand abuse, but once it kicks back, then look out, for something is coming to

you sure. You may hit it with an unkilld railroad sandwich, scorch and burn it with pepper and mustard, irritate it with salt and vinegar, chill it with ice cream, ice water and mint julips, pour stinking mineral water into it, shrink it with rotgut whisky, assault it in any old way, and it will work uncomplainingly for a long time; until —alas! and alack! some day it will go on a strike, and then the doctor for you, or you run to the drug store and proceed to souse the poor thing with patent medicines. Of course they do harm, although temporary relief may be secured. So the world becomes dark and life is a failure to you, but you quit bolting and gorging, that's sure; for that much sense will come finally to any kind of a fool. Oh, that we could have the good sense to know, when young, that the stomach should not be used for a garbage can. Then we would not load our tables with foods, some good, some bad, and then chase them half chewed down our gullets with black coffee or ice water.

Full many a man has lost his head
Through eating soggy, half-cooked bread,
And he who would his kidneys save
Had best avoid the whisky wave.
Your heart and nervous system, too,
Are surely worth a heap to you.
Why prod them, then, with nicotine,
And make believe all is serene!
In tobacco heart there is no wealth,
And what is more, there's weakened health.
Oh! foolish man when thus you choose
Your soul and body to abuse;
You'll realize, some pleasant morn,
That you have raised an awful storm.

—*Indiana Bulletin.*

ADENOIDS

LOCATION OF
ADENOIDS
SHOWN X

ADENOIDS

cause mouth-
breathing.

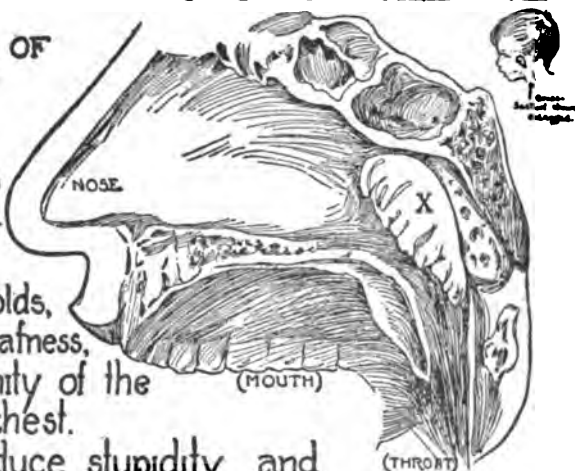
frequent colds,
catarrh, deafness,
and deformity of the
jaw and chest.

They induce stupidity and
stunt mental and physical growth.

**DON'T LET YOUR CHILD
BE SO HANDICAPPED.**

Removal of Adenoids
is a simple and brief operation.

**GIVE YOUR CHILD
A CHANCE TO BREATHE.**



ASHVILLE N.C. BULLETIN

BULLETIN

OF THE

Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

S. J. CRUMBINE, M. D., Editor.

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No. 10.

OCTOBER, 1913.

VOL. IX.

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Wastefulness and want are mother and child.—*Estey.*

“Bye, Baby Bunting,
Health man’s gone a hunting
To get the dirty milkman’s skin,
And save the baby’s life for him.”

Spare the cure, kill the child.

Coddle yourself and you invite pneumonia.

Fresh air is the best life insurance agency.

Colds are easily “caught” but hard to lose.

“Dope” for colds is “dough” for the doctor.

Why be afraid of a little fresh air in winter?

Alcohol is a preservative, but not of the health.

Good health is priceless, yet it is without price.

The best defense against disease is the simple life.

To neglect sore throat is to give the undertaker a job

Coddling; preparing for consumption and pneumonia.

Colds are not caught from fresh air, but from stuffy air.

Sixteen to one. An ounce of prevention is equal to a pound of
cure.

The more sunlight and fresh air in your house, the less need of
a doctor.

MORBIDITY STATISTICS

Reported to the State Board of Health for September, 1913.

CONTAGIOUS AND INFECTIOUS DISEASES.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.
State totals, 1913.....	229	13	50	2	48	0	14	0	15	0
September, 1912.....	237	16	57	2	80	0	11	2	.....	.....
Allen	1	0	1	0	0	0	0	0	0	0
Anderson	1	0	0	0	2	0	0	0	0	0
Atchison	0	0	0	0	2	0	0	0	0	0
Barber	0	0	1	0	0	0	0	0	0	0
Barton	0	0	0	0	1	0	0	0	0	0
Bourbon	6	0	0	0	0	0	0	0	0	0
Brown	2	0	0	0	0	0	0	0	0	0
Butler	4	0	0	0	0	0	0	0	0	0
Chase	0	0	2	0	0	0	0	0	0	0
Chautauqua	1	0	2	0	1	0	0	0	0	0
Cherokee	0	0	0	0	1	0	0	0	0	0
Cheyenne	1	0	0	0	0	0	0	0	0	0
Clark	1	0	0	0	0	0	0	0	0	0
Clay	1	0	0	0	1	0	0	0	0	0
Cloud	2	1	0	0	0	0	0	0	0	0
Coffey	2	0	0	0	0	0	0	0	0	0
Comanche	2	0	0	0	0	0	0	0	0	0
Cowley	2	0	4	0	1	0	6	0	0	0
Crawford	4	0	0	0	0	0	0	0	0	0
Decatur	1	0	0	0	0	0	0	0	0	0
Dickinson	8	0	0	0	0	0	0	0	0	0
Doniphan	3	1	0	0	1	0	0	0	0	0
Douglas	1	0	0	0	0	0	0	0	0	0
Edwards	1	0	0	0	0	0	0	0	0	0
Ellis	1	0	0	0	0	0	0	0	0	0
Ellsworth	1	0	0	0	0	0	0	0	0	0
Finney	6	0	0	0	0	0	3	0	0	0
Ford	2	0	0	0	1	0	0	0	0	0
Franklin	2	1	0	0	0	0	0	0	0	0
Geary	3	0	0	0	0	0	0	0	0	0
Gove	7	0	1	0	0	0	0	0	0	0
Graham	1	0	0	0	0	0	0	0	0	0
Grant	2	0	0	0	0	0	0	0	0	0
Gray	1	0	0	0	0	0	0	0	0	0
Greeley	2	0	0	0	0	0	0	0	0	0
Greenwood	1	0	0	0	0	0	0	0	0	0
Hamilton	2	0	1	0	0	0	0	0	0	0
Harper	1	0	0	0	0	0	0	0	0	0
Harvey	2	0	0	0	0	0	0	0	0	0
Haakell	1	0	0	0	0	0	0	0	0	0
Hodgeman	1	0	0	0	0	0	0	0	0	0
Jackson	1	0	0	0	0	0	0	0	0	0
Jefferson	2	0	0	0	0	0	0	0	0	0
Jewell	2	0	0	0	0	0	0	0	0	0
Johnson	2	0	0	0	4	0	0	0	1	0
Kearny	0	0	1	0	0	0	0	0	0	0
Kingman	6	2	0	0	0	0	0	0	0	0
Kiowa	1	0	0	0	0	0	0	0	0	0
Labette	3	1	0	0	0	0	0	0	0	0
Lane	1	0	0	0	0	0	0	0	0	0
Leavenworth	1	0	0	0	0	0	0	0	0	0
Lincoln	1	0	0	0	0	0	0	0	0	0
Linn	2	0	1	0	0	0	0	0	1	0
Logan	1	0	0	0	0	0	0	0	2	0
Lyon	1	0	0	0	0	0	0	0	0	0
Marion	1	0	2	0	0	0	0	0	0	0
Marshall	3	0	0	0	0	0	0	0	0	0
McPherson	5	0	0	0	0	0	0	0	0	0
Meade										

* No report from health officer.

CONTAGIOUS AND INFECTIOUS DISEASES—Continued.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths...	Cases...	Deaths...	Cases...	Deaths...	Cases...	Deaths...	Cases...	Deaths...
Miami	1	0	0	0	0	0	0	0	0	0
Mitchell										
Montgomery	11	0	10	0	0	0	0	0	3	0
Morris	3	0	5	0	0	0	0	0	0	0
Morton	2	1	0	0	0	0	0	0	0	0
Nemaha	0	0	0	0	4	0	0	0	1	0
Neosho	4	0	1	0	0	0	0	0	0	0
Ness	1	0	0	0	0	0	0	0	0	0
Norton	1	0	0	0	0	0	0	0	0	0
Osage	1	0	0	0	0	0	0	0	0	0
Osborne	5	0	0	0	0	0	0	0	0	0
Ottawa	5	1	0	0	2	0	0	0	0	0
Pawnee	1	1	0	0	0	0	0	0	0	0
Phillips										
Pottawatomie	0	0	0	0	4	0	0	0	0	0
Pratt	1	0	0	0	0	0	0	0	0	0
Rawlins	3	0	0	0	0	0	0	0	0	0
Reno	1	0	0	0	0	0	0	0	0	0
Republ.	2	0	2	0	0	0	0	0	0	0
Rice	1	0	0	0	0	0	0	0	0	0
Riley	1	0	0	0	0	0	0	0	0	0
Rooks	1	0	0	0	0	0	0	0	0	0
Rush	1	0	3	1	1	0	0	0	0	0
Russell	8	1	0	0	0	0	0	0	0	0
Saline										
Scott										
Sedgwick	7	0	0	0	0	0	3	0	0	0
Seward	0	0	0	0	0	0	1	0	1	0
Shawnee	0	0	0	0	1	0	0	0	0	0
Sheridan	2	0	0	0	0	0	0	0	0	0
Sherman	3	0	0	0	0	0	0	0	0	0
Smith	5	0	0	0	3	0	0	0	0	0
Stafford	2	0	0	0	0	0	0	0	0	0
Stanton										
Stevens										
Sumner	3	0	0	0	0	0	0	0	0	0
Thomas										
Trego										
Wabaunsee	0	0	2	1	0	0	0	0	0	0
Wallace										
Washington	1	0	0	0	0	0	0	0	0	0
Wichita	2	0	0	0	0	0	0	0	0	0
Wilson	0	0	0	0	1	0	0	0	0	0
Woodson	4	0	0	0	0	0	0	0	0	0
Wyandotte										
Cities:										
Atchison	1	0	0	0	2	0	0	0	0	0
Coffeyville	7	1	0	0	3	0	0	0	0	0
Fert Scott										
Hutchinson	4	1	0	0	1	0	0	0	0	0
Independence										
Kansas City	9	0	4	0	5	0	1	0	2	0
Lawrence										
Leavenworth	3	0	2	0	0	0	0	0	3	0
Parsons	14	0	0	0	1	0	0	0	0	0
Pittsburg	5	1	4	0	2	0	0	0	1	0
Topeka	4	0	1	0	0	0	0	0	0	0
Wichita	10	0	1	0	2	0	0	0	0	0

* No report from county health officer.

THE SANITARY PRIVY.

By FRED R. HESSER, Assistant Engineer for State Board of Health, University of Kansas.

For the dweller in the average farmhouse, small town or suburban home, probably the most important consideration in the maintenance of healthful living conditions is the disposal or destruction of the toilet and kitchen wastes.

It is frequently said that the country is the most healthful place in which to rear wholesome, strong children, and it is true that in the country nature has given man the material and surroundings in which this condition should exist. Nature's water supply is, almost without exception, perfectly pure so far as disease-producing organisms are concerned, and the country air is naturally free from the dust and air-borne contamination which exists in that of a crowded city. Nature, however, seems to have felt her duty completed in placing these advantages at man's command, and it is his place to see that he preserves these gifts by properly observing some of the simple laws of sanitation. In other words, he must keep himself and his premises clean.

No water, however pure it may be at its source, can be considered clean if it comes in contact with the seepage from a privy vault or the barnyard manure pile, and no air is good to breathe if filled with the stench of decaying garbage or offal. Many a man who boasts that his well contains "the best water in the neighborhood, clear and sparkling as crystal," would be genuinely astounded to learn that this water is grossly polluted by the leachings of his privy or barnyard, yet this condition exists in thousands of the homes of Kansas to-day; and if some illness has not been caused in the home by this water, it is no guarantee that it will not be. Sooner or later some member or members of that family will contract disease from this water, and the mere loss in doctor's bills will overbalance the cost of proper preventive measures.

The pollution of water supplies is not the only charge against exposed refuse heaps and unsanitary privies. These places are the breeding grounds for flies and other carriers of disease, which in turn find their way to the food on the table. The dweller in the city is provided with sewerage systems of greater or less efficiency by the community of which he is a part, but the man deprived of this convenience must depend largely upon his own efforts for his own cleanliness and health, and, to a certain extent, for the health of his city brother. In many localities the typhoid rate is higher

per capita in the country than in the neighboring cities, and many cases of typhoid in cities have been traced directly to contaminated milk or vegetables brought from the country.

It is not within the scope of this article to discuss in detail the sanitation of isolated houses; but since the outdoor privy is one of the most prolific sources of the spread of disease, and one which is most often neglected, I shall describe some of the most satisfactory and easily practiced methods of sanitary privy construction.

The most primitive method of disposing of human excreta is, of course, depositing them directly upon the ground and trusting to natural processes to dispose of them. It is unnecessary to touch upon this further than to state that to this carelessness or ignorance is due the spread of many such diseases as hookworm, Cochin China diarrhea, amœbic dysentery, and others, the parasites causing these diseases entering the system through the skin or by being breathed or swallowed.

The cesspool is very little better, for the cesspool, to work successfully, should be built in a loose, porous soil in order to allow its contents to drain away. If the soil is porous enough for this purpose, it is also porous enough to allow this seepage to enter near-by wells or cisterns.

The privy in which the excreta is allowed to fill up a hole in the ground, and then moved to another hole, concentrates the danger of infection somewhat, but the leaching liquids still may spread and ultimately cause infection at a distance.

The sanitary privy, then, should fill the following requirements:

1. The excreta should not come in contact with the ground while moist. Therefore, some water-tight receptacle must be used under the seat.

2. It should be so built that dogs, rats, chickens, etc., can not have access to the contents.

3. It must be constructed so that flies and other insects can not have access to the excreta.

4. It should be well ventilated, so that foul odors will not make its use objectionable.

The types of privy which meet these requirements may be called the "dry system," the "wet system," and the type recommended by the United States Public Health Department, called the L. R. S. privy.

In the dry system a water-tight pail, tank or barrel is placed under the seat and dry earth or ashes sprinkled over the excreta after use. When full the receptacle may be removed and its contents

buried or thrown into a fire. The seat should be provided with a tight lid to exclude flies and insects from the container.

The success of this system depends upon the conscientious co-operation of all those using it, and for this reason it is often not a success. Also, the destruction of infection is seldom complete, even when lime is sprinkled on the excreta.

In the wet system a fluid is placed in the receptacle into which the excreta falls. This liquid serves to partially liquefy the solid matter, and may contain chemicals to aid in the destruction of disease germs. It is customary to pour petroleum upon the surface of the fluid (which is generally water) to repel flies and other insects.

This type does not depend so much upon the care of those using it for successful operation, but it is apt to be difficult to keep clean when removing and emptying the container, and unpleasant splashing is apt to occur unless the container is made very deep.

The L. R. S. privy, as shown by figure No. 2, consists of a water-tight container for excreta (*a*); a covered, water-tight receiver for the effluent (*b*); an effluent pipe (*c*), about 2½ inches in diameter, long enough to reach from *a* to *b* (generally 12 inches to 18 inches) and having a tee inside of *a*, both ends of the tee being covered with wire screens; and an anti-splashing device (*d*), which consists of a small board placed horizontally under the seat about an inch below the bevel of the effluent pipe; it is supported by a vertical rod passing up through the seat. The seat may be notched and the rod provided with a nut or other projection to hold it in place when raised.

The tank (*a*) should be filled with water to the level of the outlet pipe, and petroleum may be poured over its surface.

When used, the anti-splash board may be raised and held in place by the nut as shown. After use it is lowered and the solid matter floats off or sinks to the bottom, where liquefaction goes on in much the same way as in a septic tank. The liquid flows out through the pipe into the covered receiver, which must be emptied from time to time. A better method for disposing of the effluent from the liquefying tank is to allow the effluent to flow into a tipping tray, as in figure No. 3*a*. When full, this tray automatically dumps itself, and the liquid may be led off through farm drain tile in a subirrigation system. This arrangement is more convenient, and, if given a little attention from time to time, should give thorough satisfaction.

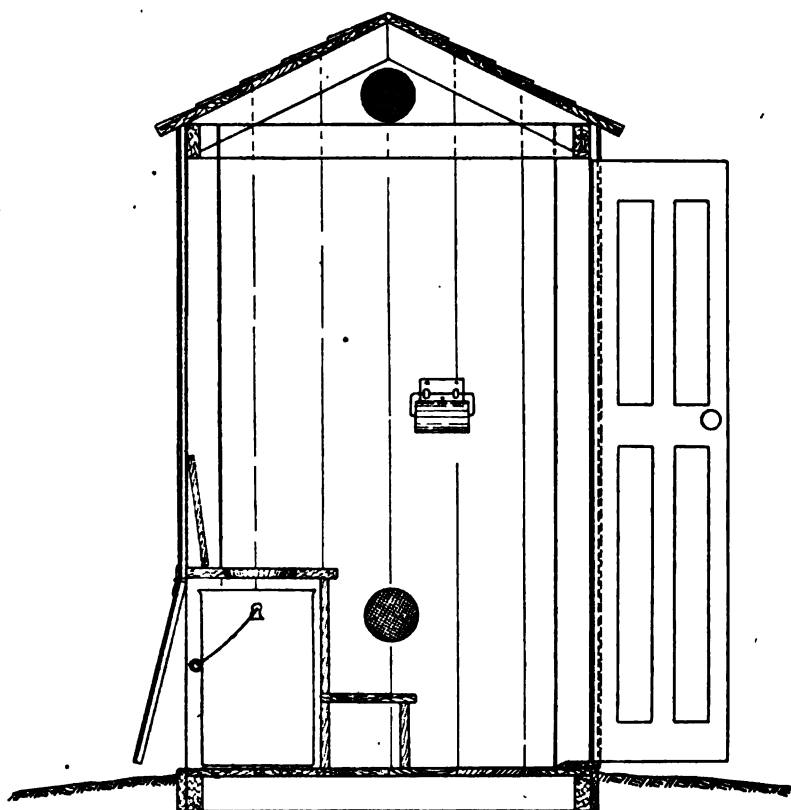
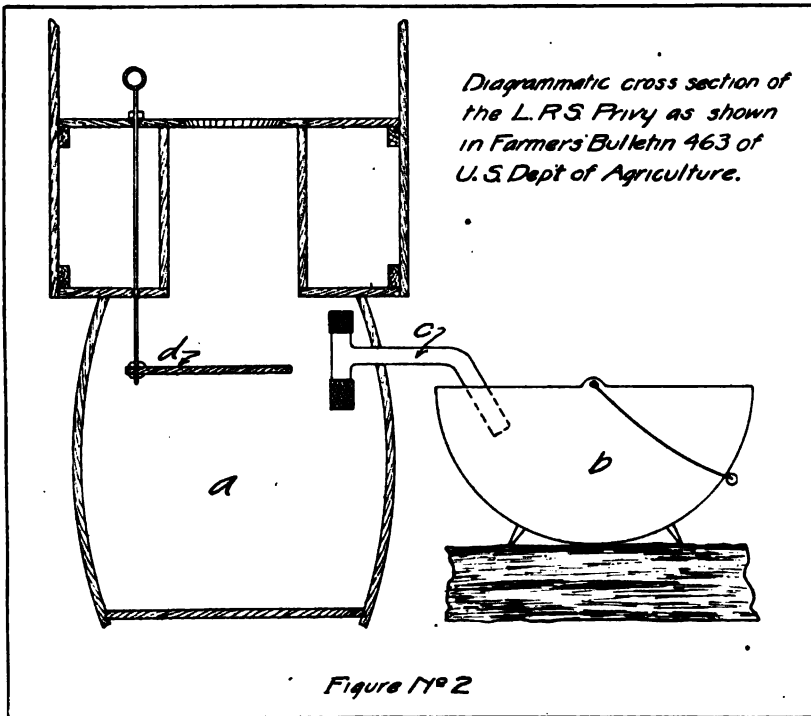


FIGURE N°1
General Plan for Privies using the Wet or the Dry Systems.

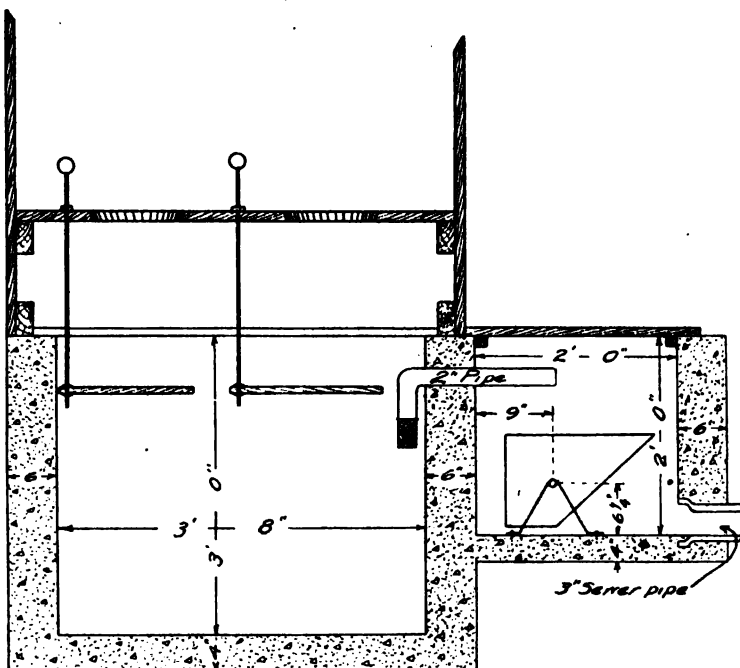
Experiments have shown that a forty-gallon barrel will serve as a liquefying tank for three persons, but more satisfactory results will probably be obtained from the use of a concrete tank, as shown in figure No. 3, as more complete liquefaction will take place in a tank of greater capacity.



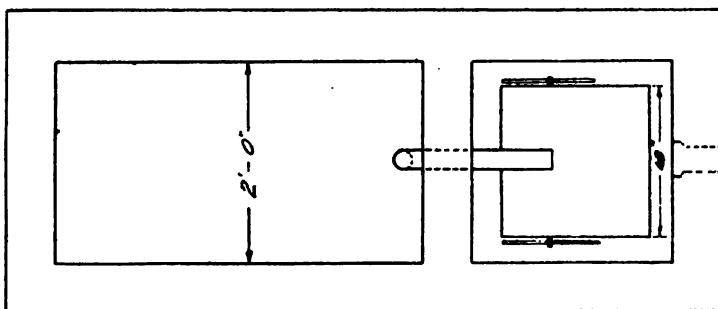
Whatever the tank used, the seat box should fit tightly down upon its top, and the seat should be provided with a tight lid and kept closed. A vent pipe leading from the seat through the roof will carry off much of the odor which is bound to arise from the contents of the tank. The door should be fitted with a spring closing device, so as to exclude flies.

During periods of extreme heat or cold it may be found that the contents of the tank become thicker, due to rapid evaporation or the slower action of the liquefying agents, and in this case it will be necessary to add some water.

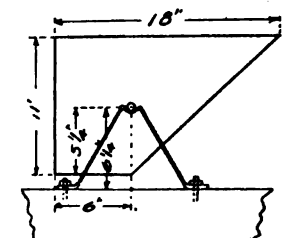
Experimental privies of the L. R. S. type have proven satisfactory where used, and indications are that the tanks will not need to be cleaned oftener than once in several years. When cleaned, the sludge should be burned or placed on cultivated fields.



LONGITUDINAL CROSS SECTION



PLAN



DETAIL of TRAY

IMPROVED PLAN
FOR
L.R.S. PRIVY

This type of privy is inexpensive and simple in construction. It will, of course, have to be used intelligently, for no system of sewage disposal will care for itself entirely; but when used in connection with the tipping tray and subirrigation, this will reduce danger of infection to as near a minimum as is possible under the conditions it is designed to meet.

When water under pressure is available in the house, however, a water carriage system and septic tank should be part of the necessities of a modern farmhouse.

DIVISION OF FOOD AND DRUGS.

J. F. TILFORD, PH. C., Assistant Chief Food and Drug Inspector.

E. H. S. BAILLY, PH. D., L. E. SAYRE, PH. M., J. T. WILLARD, M. S., Directors of the Laboratories.

Scales, Weights and Measures Condemned.

January 1, 1912 to July 1, 1913.

<i>Owner and City.</i>	<i>Articles condemned.</i>
Theo. Meinke, Linwood	1 counter platform scale.
Corum Brothers, Munsey	1 counter platform scale.
Young & Richardson, Havensville.	1 hanging meat scale.
G. F. King, Holton	1 even-balance scale.
Hinnens Sons, Holton	1 even-balance scale.
John Kauls, Holton	1 even-balance scale; 5 weights.
M. M. Manion, Humboldt.	1 platform scale, 1 pound weight.
Baker & Stephens, Erie.	1 computing scale; 7 weights.
L. W. Wilmoth, Mound Valley	1 bottomless peck measure; 1 peck bottomless measure.
G. H. Dieterich, Altamont.	1 Stimpson computing scale; 5 weights.
G. P. Roberts, McCune.	5 weights.
C. F. Webb & Co., Toronto	4 weights.
City Drug Store, White City	1 Rx. scale; 6 weights.
Jas. G. Durham, Douglass.	1 Rx. scale; 9 weights.
Ford Bolton, Towanda.	1 Rx. scale; 5 weights.
P. E. Holmes, Douglass	6 weights.
Mr. Ireland, Wellsville	Rx. scale.
Parker's Pharmacy, Kansas City.	1 Rx. scale.
W. C. Butts, Kansas City.	1 Rx. balance.
Geo. H. Fells, Independence.	Dayton counter candy scale.
W. M. Bulmer, Independence.	1 bottomless peck measure.
O. A. Weaver, Independence.	1 bottomless peck measure.
E. E. Bowen, Monrovia	1 iron platform counter scale.
D. Richter, Effingham.	1 computing meat scale
J. W. Keats, Parnell	1 even-balance scale; 3 weights.
J. H. Ryan, White Cloud	1 platform scale.
Wm. Ward, Severance.	1 hanging meat scale.
Wm. W. Erskine, Wathena.	1 hanging meat scale.
Cawood Brothers, Wetmore.	3 platform meat scales.
H. Garland, Fredonia.	1 hanging counter scale.
Learning & Vogel, Fredonia	Dayton computing scale.
Artimec & Garcia, Fredonia.	American platform scale.
Adam Loch, Chanute	1 bottomless measure.
Frank H. Burnett, Benedict.	1 pint measure.
B. Brann, Michigan Valley	1 spring scale.
Mo. Pacific R. R. Co., Overbrook	1 stockyard scale.
H. G. Wengerd, Navarre	1 Stimpson scale.
A. B. Hamacher, Sabetha.	1 hanging meat scale.
John Kaul & Sons, Holton.	1 even-balance scale.
W. Y. Olmsted, Garnett.	1 Rx. scale.
Ferril Drug Co., Chanute	10 weights.
J. M. Holzapfel, Colony	1 Rx. scale; 5 weights.
Dr. Taylor, Caney	6 weights.
The Farnsworth Drug Co., Hoisington	1 Rx. balance.
C. E. Holmes, Great Bend.	Rx. balance.
J. A. Stockenberg, Lindsborg.	Metric weights.
F. P. Barrett & Son, Atchison.	6 weights; poise on one scale.

<i>Owner and City.</i>	
W. H. Avensburg, Atchison.....	4 weights.
John Fleming, Atchison.....	1 weight.
E. Enner, Atchison.....	6 weights.
Chas. H. Helper, Frankfort.....	5 weights.
Barrett & Wasman, Frankfort.....	4 weights.
G. A. Kircher, Centralia.....	1 spring computing scale.
Wm. Mienarin, Home.....	1 hanging meat scale.
Chanute Grain Co., Chanute.....	3 measures.
Dewey & Hessel, Cheney.....	2 cup measures.
H. N. Holcomb, Castleton.....	2 cup measures.
Schwartz & Albright, Pretty Prairie.....	1 cup measure.
B. C. Beal, Clearwater.....	1 Rx. balance.
W. P. Ball, Longton.....	1 Rx. balance.
Norman E. Engle, Manhattan.....	1 Rx. balance.
Arthur C. Brown, Osage City.....	1 Rx. balance.
Albert J. Stratton, Reading.....	1 Rx. scale.
Grant & Imes, Beagle.....	1 balance scale.
Green Drug Co., Green.....	3 weights.
Pioneer Drug Co., Clay Center.....	5 weights.
A. Jennings, Clay Center.....	10 weights.
Fullington & Held, Clay Center.....	4 weights.
Wharton Drug Co., Lyons.....	7 weights.
Lyons Drug Co., Lyons.....	4 weights.
J. E. Smith, Lyons.....	7 weights.
Cook & Dodge, Sterling.....	1 weight.
F. W. Duff, Sterling.....	5 weights.
Palace Drug Co., Geneseo.....	10 weights.
Geneseo Drug Co., Geneseo.....	7 weights.
W. E. Keef, Glen Elder.....	8 weights.
Kent-Long Drug Co., Beloit.....	9 weights.
Corner Pharmacy, Beloit.....	5 weights.
Bunch Drug Co., Beloit.....	3 weights.
J. G. Trueblood, Glen Elder.....	9 weights.
O'Brien's Pharmacy, Beloit.....	4 weights.
Baldwin Pharmacy, Osborne.....	16 weights.
J. B. Hatfield, Osborne.....	2 weights.
Dryden Drug Co., Stockton.....	9 weights.
G. R. Thomason, Stockton.....	1 Rx. scale.
Mills Drug Co., Portis.....	10 weights.
Palace Pharmacy, Cedar.....	3 weights.
B. H. Hockett, Cawker City.....	1 Rx. balance.
W. S. Quisberry & Co., Cawker City.....	5 weights.
City Pharmacy, Downs.....	1 weight.
Raxall Drug Co., Downs.....	2 weights.
Kirwin Drug Co., Kirwin.....	5 weights.
C. W. Dremer, Edna.....	1 5-pound weight.
I. M. Sharp, Bigelow.....	1 computing scale.
A. J. Leonard, Herkimer.....	1 counter platform scale.
J. C. Gordon, Westmoreland.....	1 hanging meat scale.
Chas. Hofman, Green.....	1 Stimpson scale.
F. O. Fence, Idana.....	1 platform meat scale.
T. J. Nutter, Morrowville.....	1 hanging meat scale.
G. H. Grieve, Longdon.....	1 Rx. scale.
Standard Milk Company, De Soto.....	1 platform scale.
J. H. Grace, Admire.....	1 Stimpson scale.
O. A. Weisman, Hays.....	1 Stimpson scale.
J. L. Drago, Quinter.....	1 Stimpson scale.
J. H. Myers, Great Bend.....	1 pound scale weight.
W. L. Curtis, Garfield.....	1 K. C. computing scale.
J. Dillon Mercantile Company, Sterling.....	1 standard computing scale.
J. L. McCormick, Phillipsburg.....	5 weights.
Holmes Drug Company, Phillipsburg.....	10 weights.
Nyal Drug Company, Norton.....	1 weight.
M. L. Stone, Wamego.....	1 Rx. scale.
Verner Alquist, Clay Center.....	1 weight.
H. E. Carter, Clay Center.....	1 even balance: 8 weights.
John Hostinsky, Cuba.....	1 Dayton scale.
Jessie Harvey, Meriden.....	1 computing scale.
Bennett's Bakery, Galena.....	1 scale.
Fred Volz, Galena.....	1 Butcher's scale.
Don Moore, Galena.....	1 pint measure.
Stoy E. Ware, Sylvan Grove.....	1 2-oz. graduate.
Perry Loyd, Culver.....	5 Rx. weights.
G. M. Cook, Lucas.....	3 Rx. weights.
D. C. Cashman, Atwood.....	4 Rx. weights.
R. J. McClay, Plainville.....	1 Rx. weight.
Mrs. C. R. Stevenson, Herndon.....	2 Rx. weights.
J. P. Wormeringer, Sharon Springs.....	3 Rx. weights.
C. A. Harkness, Hays City.....	7 Rx. weights.
W. W. Gibson, Wa Keeney.....	1 Rx. balance.
Dawson's Drug Store, Russell.....	5 Rx. weights.
M. R. Smith, Russell.....	3 Rx. weights.
F. M. Sawyer, Deerfield.....	1 Stimpson scale, 250,867.

Articles condemned.

<i>Owner and City.</i>	<i>Articles condemned.</i>
P. L. Howe, Winfield.....	Counter Standard computing scale.
W. P. Shover, Lovewell.....	1 Fairbanks counter platform scale.
C. D. Peterson, Scandia.....	1 hanging meat scale.
Brandt, Chaput & Mercer, Aurora.....	1 meat scale.
J. C. Moas, Mankato.....	1 hanging meat computing scale.
W. A. Thew, Conway Springs.....	1 Rx. scale.
J. A. Smith, Eureka.....	1 Toledo computing scale.
City Drug Store, Tribune.....	1 Rx. weight.
Rexall Drug Store, Scott City.....	1 Rx. weight; 1 graduate.
City Drug Store, Scott City.....	4 Rx. weights.
Ransom Drug Store, Ransom.....	1 Rx. balance.
The Semple Drug Co., La Crosse.....	4 Rx. weights.
Mr. J. L. Kemp, Lebanon.....	1 hanging computing meat scale.
Dr. J. Shepard, Leoti.....	1 Rx. weight.
Pioneer Drug Store, Leoti.....	8 Rx. weights.
E. G. Wickwire, Larned.....	5 Rx. weights.
Barber's Drug Store, Larned.....	1 Rx. weight.
Makinson & Brookins, Holton.....	1 Rx. scale.
C. H. Hayes, Goff.....	1 Rx. scale.
G. W. Sourk, Goff.....	1 Rx. scale.
Cole & Anderson, Downs.....	1 hanging meat scale, Stimpson, 80,678.
J. W. Sutton, Glasco.....	1 hanging meat scale, Dayton, 102,193.
A. W. Morris, Glasco.....	1 Korschner scale.
Rexall Drug Store, Downs.....	2 Rx. weights.
City Pharmacy, Downs.....	1 Rx. weight.
J. H. Cox, Conway Springs.....	Counter scale; Standard computing scale.
J. W. Pilcher.....	1 Stafford counter platform scale.
New York Store Merc. Co., Beloit.....	4 weights.
A. P. Shedpardson, Bellaire.....	1 hanging meat scale, Universal computing.
Ed. Quenelle, Aurora.....	1 Rx. scale; 15 weights.
J. E. McGrath, Atchison.....	1 Rx. scale; 5 Rx. weights.
Paris & Garvin, Yates Center.....	1 Old-style Stimpson computing.
T. J. Fee, Woodruff.....	1 Chatillon hanging meat scale.
Barker & Allman.....	1 Stimpson computing scale, 500,862.
Uhl Drug Co., St. John.....	4 Rx. weights.
The A. & A. Drug Store, St. John.....	4 Rx. weights.
The A. & A. Drug Store, Stafford.....	3 Rx. weights.
J. Brown, Preston.....	2 measures, $\frac{1}{4}$ peck, and 1 peck.
The Pratt Drug Co., Pratt.....	16 Rx. weights.
Frank A. Milne, Pratt.....	4 Rx. weights.
The Palace Drug Store, Preston.....	2 Rx. weights.
The Corner Drug Store, Macksville.....	2 Rx. weights.
Edgar Dykes, Macksville.....	6 Rx. weights.
M. & M. Drug Store, Meade.....	2 Rx. weights.
Lewis Drug Store, Lewis.....	1 Rx. balance.
J. W. Giesburg, Kansas City.....	1 Rx. scale.
Chas. Taylor & Co., Liberal.....	8 Rx. weights.
Medearis Drug Co., Kansas City.....	1 Rx. scale.
Geo. S. Smith & Bro., Liberal.....	2 Rx. weights.
T. S. Locke, Liberal.....	6 Rx. weights.
Marsh's Drug Store, Kansas City.....	1 Rx. scale.
L. P. Freeman, Galesburg.....	1 Rx. scale.
H. F. Davis, Colby.....	1 Dayton scale, 50,896; 1 Rx. balance.
W. V. Etling, Burdett.....	2 Rx. weights.
Lem Fulwider, Brewster.....	1 hanging meat scale, Dayton 82,534.
Wood & Lauman, Syracuse.....	1 Wilmore computing scale.
J. A. Berry, Arlington.....	3 weights.
R. J. Yocum, Roseville.....	1 weight from counter platform scale.
C. W. Coffey, New Salem.....	1 Stimpson counter scale, 252,412.
Pollock & Shively, Minneola.....	1 Stimpson computing, 503,530.
John W. Alford, Matfield Green.....	1 Rx. scale.
Wayne C. Alford, Mullinville.....	3 Rx. weights.
Craft's Pharmacy, Mullinville.....	6 Rx. weights.
J. A. Follick, Minneola.....	2 Rx. weights.
H. C. Bradbury, Plainville.....	1 Dayton computing, 124,059.
F. D. Eggeleston, Kingman.....	1 Rx. weight.
J. W. Cookson Drug Co., Kingman.....	5 Rx. weights.
N. H. Kilmer's Pharmacy, Kingman.....	2 Rx. weights.
T. S. Lathen, Lane.....	1 National computing scale.
Harper Drug Co., Harper.....	7 Rx. weights.
Earl Collins, Harper.....	4 Rx. weights.
Dr. D. S. Parks, Greensburg.....	9 Rx. weights.
Doty Drug Co., Cunningham.....	1 Rx. weight.
Cheney Drug Co., Cheney.....	8 Rx. weights.
Delton Sparr, Bluff City.....	1 Rx. balance.
The Palace Drug Co., Bucklin.....	5 Rx. weights.
Dr. W. W. Pritchard, Bucklin.....	5 Rx. weights.
Irwin & Potter, Anthony.....	5 Rx. weights.
C. B. Olson, Topeka.....	1 Angledile scale.
James O'Reilly, Strong City.....	1 Wilmore computing scale.
H. L. Rodenberg, Leavenworth.....	1 Old Dayton scale, 43,761; 1 10-pound weight.
Davenport & Clark, Little River.....	1 Rx. balance.
Mr. Fred B. Bishop, Eureka.....	1 Rx. balance.

<i>Owner and City.</i>	<i>Article condemned.</i>
Dougherty's Drug Store, Syracuse	4 Rx. weights.
W. Diefendorf, Fairmount	1 weight.
City Drug Store, Garden City	6 Rx. weights; 4 Rx. weights.
City Drug Store, Dodge City	4 Rx. weights.
Geo. D. Cochran, Dodge City	2 Rx. weights.
W. L. Welsh, Hazelton	8 Rx. weights.
City Drug Store, Hardtner	1 Rx. weight.
The Union Pacific Tea Co., Topeka	12 weights.
The Gem Drug Store, Ellinwood	8 Rx. weights.
S. C. Arnold, Hudson	5 Rx. weights; 1 Rx. balance.
J. W. Downey, Great Bend	1 Chatillon scale.
G. Sevain, Peabody	8 weights.
Seitz's Eagle Drug Store, Salina	4 Rx. weights.
A. A. Wiesner, Hays	1 Stimpson scale, 501,368.
M. P. Shack, Sterling	1 American computing.
J. H. Larkin, Leavenworth	1 even-balance scale; 3 weights.
August Wulfekuhler, Leavenworth	3 weights.
Rice Brothers, Ashland	1 Rx. balance.
E. L. Feagan, Norwich	2 Rx. weights.
Owl Grocery, North Topeka	2 weights
Zimmerman & Williamson, Troy	2 weights; 1 old even-balance scale.
M. E. Roudy, Doniphan	5 weights; 1 old Buffalo scale.
Griffin & Son, Nortonville	4 Rx. weights.
D. J. Lane, St. Marys	3 Rx. weights.
Winterscheidt & Luebke, Horton	1 Rx. weight.
A. T. Stewart, Denton	2 Rx. weights.
Makinson & Brookins, Holton	2 Rx. weights.
H. F. Kespohl, Atchison	4 weights.
Emil Ebner, Atchison	2 weights.
J. H. Woodford, Atchison	2 weights.
F. P. Barrett & Son, Atchison	2 weights.
W. E. Obley, Burrton	1 Stimpson computing scale.
Paul J. Schmidt, Atchison	1 weight.
E. W. Berlin, Atchison	5 weights.
Geo. McLaren, Troy	6 Rx. weights.
E. A. Sinclair, Troy	2 Rx. weights.
Robert McMillan, Meriden	1 Rx. weight.
J. M. Boys, Wamego	1 Rx. weight.
August Hagen, Atchison	7 weights.
C. V. Jacobs, Atchison	1 even-balance scale; 1 weight.
Reed's Pharmacy, Soldier	2 Rx. weights.
Geo. L. Brown, Highland	3 weights.
O. E. Lear, White Cloud	4 weights.
Warner Drug Co., Carbondale	4 Rx. weights.
W. J. Rosser & Co., Carbondale	2 Rx. weights.
H. S. Willard, Manhattan	3 Rx. weights.
R. C. Hulburd, Wamego	1 Rx. weight.
Raymond's Drug Store, Lawrence	3 Rx. weights.
W. V. Hill, Lawrence	1 Rx. balance.
Dick Brothers, Lawrence	2 Rx. weights.
F. B. McColloch, Lawrence	1 Rx. weight.
A. C. Rosser, Osage City	4 Rx. weights.
W. W. Hull, Alta Vista	1 Rx. balance.
Wempe & Huertter, Seneca	7 weights.
Moore's Pharmacy, Marysville	4 Rx. weights.
D. VonRiesen, Marysville	2 Rx. weights.
H. C. Reeder, Blue Rapids	7 Rx. weights.
Greevan's Drug Store, Axtell	4 Rx. weights.
J. E. Henry, Summerfield	1 Rx. balance.
Doctor Jewett, Eskridge	2 Rx. weights.
E. R. Brown, Eskridge	2 Rx. weights.
A. A. Meyer, Alma	1 Rx. weight.
F. J. Wagner, McFarland	1 Rx. balance, Tromer.
Kandt's Drug Store, Herington	4 Rx. weights; 3 Rx. weights.
U. S. Davis, Morrill	4 Rx. weights.
J. C. Fuger, Hamlin	2 Rx. weights.
M. F. Malinowsky, Hiawatha	1 Turnbull's platform scale.
Fred G. Beaulieu, Sabetha	1 Rx. weight.
J. L. McCormick & Co., Phillipsburg	1 box Rx. balance.
C. E. Lynn, Mankato	1 Rx. weight.
T. H. Shedden, Fort Osage	1 Rx. weight.
M. Barlow, Marysville	1 Howe scale.
Clyde Drug Company, Clyde	15 Rx. weights.
H. E. Isaacson, Clyde	1 Rx. balance, No. 269.
J. G. Woolsey, Munden	1 Rx. balance, No. 23,287.
Arbuthnot Drug Company, Belleville	1 Rx. weight.
Hutchcock & Carnahan, Baldwin	5 Rx. weights.
The Row Drug Company, Baldwin	1 Rx. weight.
S. M. Scheffer, Bonner Springs	1 Rx. weight.
O. P. Barber & Son, Lawrence	2 Rx. weights.
E. E. N. Coan, Barnes	14 Rx. weights.
Smith Drug Company, Washington	2 Rx. weights.
Rommel Drug Company, Waterville	3 Rx. weights.

<i>Owner and City.</i>		<i>Articles condemned.</i>
E. Bechard, Clyde.....	4 Rx. weights.	
Parker Drug Company, Kansas City.....	11 Rx. weights.	
Tom Lilley Drug Company, Kansas City.....	5 Rx. weights.	
Ruby Pharmacy, Kansas City.....	9 Rx. weights.	
Corner Pharmacy, Neodesha.....	1 Rx. scale.	
A. C. Cook, Kansas City.....	8 Rx. weights.	
M. J. Bulger, Carlyle.....	1 hanging spring meat scale.	
J. F. Best, Carlyle.....	1 hanging meat scale.	
Seefkin & Pelpier, Humboldt.....	1 Stimpson hanging meat scale.	
Wright Ireland Company, Bronson.....	4 weights.	
Kibbey's Pharmacy, Junction City.....	1 Rx. weight; 2 graduates.	
J. C. Thomas, Iola.....	1 spring platform counter meat scale.	
Wm. McGeorge, Kansas City.....	1 Rx. balance.	
A. C. Riddell, Kansas City.....	8 Rx. weights.	
H. W. Steyer, Iola.....	3 weights.	
Union Pacific Tea Co., Iola.....	2 weights.	
C. L. Cowan, Iola.....	12 weights.	
A. J. Lieurance, Neosho Falls.....	1 Rx. scale.	
Simpson Block Drug Co., Kansas City.....	1 Rx. balance.	
Leverich Drug Co., Kansas City.....	7 weights.	
Hampton's Pharmacy, Kansas City.....	1 Rx. weight.	
R. S. Pinegar, Kansas City.....	1 Rx. scale.	
Benedict & McClure, Benedict.....	1 hanging meat scale, 16,360.	
W. J. Allen, Wray City.....	9 Rx. weights.	
Jas. J. Purcell, Salina.....	5 weights.	
National Drug Co., Salina.....	9 weights.	
T. W. Carlin, Salina.....	12 Rx. weights.	
Bloomheart Brothers, Chanute.....	5 weights.	
John A. Carter, Chanute.....	6 weights. Released.	
Walter Lapham, Chanute.....	4 weights. All except 2-lb. weight released.	
Chanute Wholesale Grocery, Chanute.....	2 weights. Released.	
J. A. Spaulding, Dearing.....	1 Rx. scale.	
Palmer's Opera House, Salina.....	5 Rx. weights.	
Zeman Pharmacy, Wilson.....	4 Rx. weights.	
H. H. Elliot, Bennington.....	1 Rx. weight.	
A. Waller Drug Co., Delphos.....	4 Rx. weights.	
C. R. Moore, Delphos.....	2 Rx. weights.	
O. J. Benson, Gove.....	8 Rx. weights.	
G. W. Rhine, Gove.....	5 Rx. weights.	
Ellis Mercantile Co., Ellis.....	7 Rx. weights.	
W. H. Pannebaker, Severy.....	1 weight.	
The Hubbel Dry Goods Co., Fredonia.....	6 weights.	
John Landers, Hiattville.....	1 weight.	
I. Iman, Burlingame.....	1 K. C. computing scale.	
J. H. Ellis, Highland.....	1 Rx. weight.	
W. K. Russell, Oneida.....	1 Rx. weight.	
J. E. McGrath, Atchison.....	1 Rx. weight.	
Byrnes Pharmacy, Atchison.....	1 Rx. weight.	
George D. Whitney & Son, Olathe.....	4 Rx. weights.	
Dr. J. W. Murray & Son, Hoyt.....	7 Rx. weights.	
W. A. Hall, Augusta.....	1 even-balance scale; 3 weights.	
W. E. Peacock, Andover.....	1 weight.	
C. W. Ewing, El Dorado.....	7 weights.	
H. S. Binford, El Dorado.....	3 weights.	
W. A. O. White, Holliday.....	24 weights.	

Pure air makes pure blood; pure blood makes you disease-resisting.

Health is not put up in bottles, and can not be bought at the drug store.

Don't wait till to-morrow if the child has sore throat. Call the doctor at once.

What some thrifty (?) people keep from the doctor they give—to the undertaker.

Tea, coffee and alcohol are stimulants—not foods. They lift one up to drop him hard.

Open Windows.

With the approach of cold weather we are facing the season when many people tightly close all windows in the house and keep them closed day and night. This habit is the cause of much illness. We need air and we need fresh air. A great many people think only of warming their houses, without any reference to the way in which it is done. During the daytime, when we are in our living rooms without wraps and not prepared for the cold, it is reasonable to expect that the windows will be kept closed or nearly so most of the time, but there is no reason why the rooms can not be flushed with fresh air at intervals. Every house should be thoroughly aired out several times a day, and yet we all know people of considerable intelligence in whose houses the windows are never raised during the entire cold season. The custom of opening windows in our bedrooms at night is gradually gaining foothold. Time was, and not very long ago either, that people were afraid of "taking cold" if they allowed their windows to remain open, because of the fact that night air would enter the bedrooms.

It has been positively established that night air does not differ from day air, except that it is freer from dust and smoke; otherwise it is exactly the same thing, and as some sanitarians have put it, "the only night air that is dangerous is last night's—open the windows and let it out." There is no occasion for any one being afraid of a draft if they are warmly covered up in their beds at night; the fact that the cold air blows about in the room does not bring with it the result of making people ill, but, on the contrary, keeps them in the best of health by assuring them a sleep which is restful and refreshing. This is not an idle theory; it has been tried out by a large number of people, and they all agree that they feel much better if they sleep in rooms in which the windows are wide open than in tightly closed rooms. Try it now. The weather is not so cold that it will be disagreeable at all to make the experiment, even if you have not done it previously, and by the time the weather gets severely cold you will have become accustomed to it, and so strongly in favor of it on account of your improved health that you will refuse to shut your windows even in zero weather.—*Bulletin of the Indiana State Board of Health.*

"The doctrine of infant damnation is thoroughly modern. Go look at the children who need playgrounds and you 'll believe it."
—*Cleveland Humane Society.*

A YOUNG MAN'S RECREATION CREED.

REV. HERBERT A. JUMP, Pastor, Oakland, Cal.

FIRST. I will never patronize an entertainment that brutalizes man or shames a woman.

SECOND. I will always do some part of my playing in the open air.

THIRD. I will not be merely a lazy spectator of sport; I will taste for myself its zest and thrill.

FOURTH. I will avoid overamusement as I pray that I may be saved from overwork.

FIFTH. I will choose the amusements that my wife can share.

SIXTH. I will not spend Sunday in caring for my bodily pleasure so much that I forget my soul and its relation to God's kingdom.

SEVENTH. I will never spend on pleasure money that belongs to other aspects of my life

EIGHTH. I will remember to enjoy a boy's sports again when my boy needs me as a chum.

NINTH. I will recollect that play should be for the sake of my mind as well as for my body; hence I shall not shun those forms of entertainment that deal with ideas.

TENTH. I will never let play serve as the end of existence, but always it shall be used to make me a better workman and a richer soul.

BULLETIN

OF THE

Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

S. J. CRUMBINE, M. D., Editor.

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NOVEMBER, 1913.

VOL. IX.

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Many of us dig our graves with our teeth.—*Doctor Abernethy.*

Water is the best "kidney medicine" the Lord or any one else ever made.

Don't hibernate; ventilate. Plenty of fresh air will make the fires of life burn brightly.—*Journal of the Outdoor Life.*

Health is nature's reward for getting in harmony with her laws; it pays to be law-abiding.

Kansas is also the first state to use the popular "post card" in public health educational work.

The BULLETIN will be sent free to any citizen of Kansas who may request it.

Sins against our physical bodies bring their own reward—sickness and disease. Moreover, nature takes no account of the fact that we have not been aware of the physical laws which we have broken.

The physically defective child will continue to be burdened with an insurmountable handicap in his struggle for health and an education until we have a reasonable and effective physical supervision of school children.

Our plan to loan stereopticon slides showing the various phases of public health questions has been so favorably received that we have quite a lengthy waiting list of orders that can not be immediately filled.

MORBIDITY STATISTICS

Reported to the State Board of Health for October, 1913.

CONTAGIOUS AND INFECTIOUS DISEASES.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.
State totals, 1913.....	211	15	88	8	122	3	24	0	15	0
October, 1912.....	197	36	88	8	188	3	7	0	.....	.....
Allen.....	8	0	2	0	1	0	0	0	0	0
Anderson.....	1	0	0	0	1	0	0	0	0	0
Atchison.....	0	0	1	0	5	1	0	0	0	0
Barber.....	0	0	1	0	0	0	0	0	0	0
Barton.....	1	0	0	0	3	0	0	0	0	0
Bourbon.....	2	0	3	0	0	0	0	0	0	0
Brown.....	4	0	1	0	0	0	0	0	0	0
Butler.....	6	0	0	0	0	0	0	0	0	0
Chase.....	0	0	0	0	0	0	0	0	0	0
Chautauqua.....	0	0	1	0	1	0	0	0	0	0
Cherokee.....	5	2	7	1	0	0	0	0	0	0
Cheyenne.....	0	0	0	0	0	0	0	0	0	0
Clark.....	0	0	0	0	0	0	0	0	0	0
Clay.....	0	0	0	0	0	0	0	0	0	0
Cloud.....	4	0	0	0	0	0	0	0	0	0
Coffey.....	3	1	0	0	0	0	0	0	0	0
Comanche.....	1	0	4	0	0	0	0	0	0	0
Cowley.....	7	0	4	0	0	0	0	0	1	0
Crawford.....	10	0	3	1	0	0	4	0	0	0
Decatur.....	10	0	0	0	0	0	0	0	0	0
Dickinson.....	0	0	2	0	0	0	0	0	0	0
Doniphan.....	0	0	0	0	1	0	0	0	0	0
Douglas.....	1	0	0	0	1	0	0	0	0	0
Edwards.....	1	0	0	0	2	0	0	0	0	0
Elk.....	1	0	0	0	0	0	0	0	0	0
Ellis.....	0	0	0	0	0	0	0	0	0	0
Ellsworth.....	7	0	0	0	0	0	0	0	0	0
Finney.....	3	0	0	0	0	0	0	0	0	0
Ford.....	0	0	0	0	0	0	0	0	0	0
Franklin.....	1	0	2	0	0	0	1	0	0	0
Geary.....	2	0	6	1	0	0	0	0	0	0
Gove.....	0	0	0	0	0	0	0	0	0	0
Graham.....	0	0	0	0	0	0	0	0	0	0
Grant.....	0	0	0	0	0	0	0	0	0	0
Gray.....	0	0	0	0	0	0	0	0	0	0
Greeley.....	0	0	0	0	0	0	0	0	0	0
Greenwood.....	7	1	0	0	0	0	0	0	4	0
Hamilton.....	0	0	0	0	0	0	0	0	0	0
Harper.....	0	0	0	0	0	0	0	0	0	0
Harvey.....	2	0	0	0	0	0	0	0	2	0
Haskell.....	0	0	0	0	0	0	0	0	0	0
Hodgeman.....	0	0	0	0	0	0	0	0	0	0
Jackson.....	0	1	0	0	1	0	0	0	0	0
Jefferson.....	1	0	2	0	0	0	0	0	0	0
Jewell.....										
Johnson.....										
Kearny.....	3	1	0	0	3	0	0	0	0	0
Kingman.....	0	0	1	0	3	0	0	0	0	0
Kiowa.....	0	0	0	0	0	0	0	0	0	0
Labette.....	8	3	4	0	0	0	0	0	0	0
Lane.....	2	0	0	0	0	0	0	0	0	0
Leavenworth.....	3	0	1	0	0	0	0	0	0	0
Lincoln.....	1	0	0	0	0	0	0	0	0	0
Linn.....	2	0	0	0	0	0	0	0	0	0
Logan.....	0	0	0	0	0	0	0	0	0	0
Lyon.....	2	0	0	0	2	0	0	0	1	0
Marion.....	5	0	1	0	0	0	0	0	0	0
Marshall.....	2	0	0	0	2	0	1	0	0	0
McPherson.....	0	0	0	0	0	0	0	0	0	0
Meade.....	2	0	0	0	0	0	0	0	0	0

*No report from health officer.

CONTAGIOUS AND INFECTIOUS DISEASES—Continued.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.
Miami	0	0	0	0	0	0	0	0	0	0
* Mitchell										
Montgomery	3	0	0	0	0	0	0	0	0	0
Morris	3	0	5	0	5	0	0	0	0	0
Morris	1	1	0	0	0	0	0	0	0	0
Nemaha	0	0	1	0	11	0	0	0	2	0
Nemaha	1	0	5	0	0	0	0	0	0	0
Ness	0	0	0	0	0	0	0	0	0	0
Ness	5	1	0	0	0	0	0	0	0	0
Norton	0	0	0	0	0	0	0	0	0	0
Osage	0	0	0	0	0	0	0	0	0	0
Osborne	2	0	0	0	0	0	0	0	0	0
* Ottawa										
Pawnee	0	0	0	0	0	0	0	0	0	0
Phillips	0	0	0	0	0	0	0	0	0	0
Phillips	0	0	0	0	0	0	0	0	0	0
Pottawatomie	0	0	0	0	0	0	0	0	0	0
Pratt	0	0	0	0	0	0	0	0	0	0
Rawlins	0	0	0	0	0	0	0	0	0	0
Reno	1	0	1	0	3	0	0	0	0	0
Republic	3	1	0	0	0	0	0	0	0	0
Rice	3	0	0	0	0	0	0	0	0	0
Riley	2	1	0	0	1	0	0	0	0	0
Rocks	5	1	0	0	0	0	0	0	0	0
Rush	0	0	0	0	0	0	0	0	0	0
Rush	5	0	0	0	0	0	0	0	0	0
Russell	2	0	2	1	0	0	0	0	0	0
Saline	0	0	0	0	0	0	0	0	0	0
Scott	2	0	0	0	0	0	1	0	0	0
Sedgwick	0	0	0	0	0	0	0	0	0	0
Seward	0	0	2	2	0	0	0	0	0	0
Shawnee	0	0	0	0	0	0	0	0	0	0
Sheridan	0	0	0	0	0	0	0	0	0	0
Sherman	0	0	0	0	0	0	0	0	0	0
Smith	0	0	0	0	1	0	0	0	0	0
Stafford	0	0	1	0	0	0	0	0	0	0
* Stanton										
Stevens	2	0	0	0	0	0	0	0	0	0
Stevens	2	0	0	0	0	0	0	0	0	0
Sumner	0	0	0	0	0	0	3	0	0	0
Thomas	0	0	0	0	0	0	0	0	0	0
Trego	0	0	0	0	0	0	0	0	1	0
Wabaunsee	0	0	0	0	3	0	0	0	0	0
Wallace	0	0	0	0	0	0	0	0	0	0
Washington	0	0	0	0	0	0	0	0	0	0
Wichita	1	0	0	0	0	0	0	0	0	0
Wichita	1	1	0	0	3	0	0	0	0	0
Wilson	1	0	0	0	0	0	0	0	0	0
Woodson	4	0	0	0	0	0	0	0	0	0
Wyandotte	1	0	1	0	6	0	0	0	0	0
Cities:										
Atchison	0	0	2	1	27	0	0	0	0	0
Coffeyville	3	0	1	0	4	0	0	0	0	0
Fert Scott	2	0	0	0	0	0	0	0	0	0
Hutchinson	7	0	4	1	3	2	0	0	2	0
Independence										
Kansas City	6	0	5	0	7	0	12	0	1	0
Lawrence										
Lawrence	1	0	2	0	1	0	0	0	1	0
Lawrenceworth	4	0	0	0	0	0	0	0	0	0
Parsons	2	0	1	0	9	0	1	0	0	0
Pittsburg	0	0	1	0	5	0	0	0	0	0
Topeka	0	0	1	0	5	0	0	0	0	0
Wichita	12	0	3	0	3	0	1	0	0	0

* No report from county health officer.

VITAL STATISTICS.

**Reported to the Kansas State Board of Health for July, August
and September, 1913.**

STILLBIRTHS NOT INCLUDED.

COUNTIES.	July.			August.			September.		
	Births.	Deaths.	Marriages.	Births.	Deaths.	Marriages.	Births.	Deaths.	Marriages.
Allen.....	44	25	16	48	21	18	35	18	29
Anderson.....	14	11	6	31	12	9	20	10	10
Atchison.....	50	24	16	80	21	24	34	24	38
Barber.....	26	5	8	17	14	4	12	3	6
Barton.....	25	9	12	52	18	12	36	15	13
Bourbon.....	45	27	16	48	13	18	18	5	20
Brown.....	36	13	5	44	16	11	37	20	11
Butler.....	43	18	10	34	13	11	36	13	11
Chase.....	23	7	6	18	2	7	10	12	3
Chautauqua.....	22	12	8	18	13	0	16	6	13
Cherokee.....	78	37	30	65	33	39	89	37	30
Cheyenne.....	10	1	3	11	6	4	16	1	3
Clark.....	5	3	2	21	2	2	4	0	2
Clay.....	40	17	6	19	12	9	22	8	15
Cloud.....	41	22	15	30	18	14	40	13	16
Coffey.....	13	7	5	24	15	9	39	16	13
Comanche.....	5	3	3	5	2	5	14	4	4
Cowley.....	50	31	20	55	31	19	47	27	22
Crawford.....	106	51	47	98	49	49	114	59	62
Decatur.....	11	3	1	13	9	5	12	8	4
Dickinson.....	49	14	18	46	12	16	41	12	13
Doniphan.....	30	12	13	23	15	9	22	13	12
Douglas.....	25	24	15	39	21	23	21	16	22
Edwards.....	12	10	5	6	5	7	11	5	10
Elk.....	10	9	6	13	3	4	13	5	9
Ellis.....	41	14	9	49	10	2	49	6	13
Ellsworth.....	18	16	6	21	12	9	19	9	12
Finney.....	10	7	5	10	9	7	9	5	4
Ford.....	46	18	11	31	12	10	26	7	11
Franklin.....	14	13	13	52	18	22	45	14	19
Geary.....	8	7	11	20	13	8	22	7	17
Gove.....	9	2	4	6	5	0	10	6	0
Graham.....	14	6	7	14	5	4	10	4	1
Grant.....	3	0	0	1	1	0	0	0	0
Gray.....	5	3	3	0	1	1	7	2	1
Greeley.....	2	1	3	0	1	0	2	0	1
Greenwood.....	28	19	6	30	18	8	16	8	9
Hamilton.....	2	2	1	6	0	3	1	1	3
Harper.....	37	11	7	28	10	13	28	10	8
Harvey.....	29	21	21	44	18	0	43	16	58
Haskell.....	0	1	1	3	1	1	2	0	1
Hodgeman.....	9	4	0	8	1	0	7	0	1
Jackson.....	24	15	4	31	18	14	40	10	15
Jefferson.....	41	19	8	15	22	9	25	11	2
Jewell.....	39	19	8	30	19	7	35	5	13
Johnson.....	22	21	25	15	24	27	21	16	33
Kearny.....	4	1	1	3	2	2	5	0	1
Kingman.....	21	6	8	34	11	11	29	9	11
Kiowa.....	22	8	8	23	6	6	17	4	7
Labette.....	34	27	16	37	35	20	55	28	33
Lane.....	7	0	0	6	2	0	4	0	4
Leavenworth.....	50	34	67	47	40	57	48	40	51
Lincoln.....	17	13	12	19	6	6	18	7	14
Linn.....	30	9	7	20	14	9	21	6	13
Logan.....	3	1	3	0	0	0	7	1	3
Lyon.....	37	26	15	28	29	32	45	19	33
Marion.....	38	14	7	42	25	10	61	14	17
Marshall.....	51	30	10	31	19	13	41	17	10
McPherson.....	50	23	14	29	27	14	21	12	10
Meade.....	20	8	4	25	5	5	9	2	5

BIRTHS AND DEATHS FOR JULY, AUGUST AND SEPTEMBER, 1913—Concluded.

COUNTIES.	July.			August.			September.		
	Births.	Deaths.	Marriages.	Births.	Deaths.	Marriages.	Births.	Deaths.	Marriages.
Miami.....	27	31	14	28	39	14	22	24	18
Mitchell.....	33	19	12	19	21	7	26	7	17
Montgomery.....	78	55	47	69	40	59	85	34	64
Morris.....	17	10	4	19	8	3	27	8	5
Morton.....	0	1	2	1	0	1	0	0	2
Nemaha.....	33	14	9	42	16	10	46	15	7
Neosho.....	32	25	7	50	27	20	46	19	6
Ness.....	7	4	1	12	6	3	14	3	1
Norton.....	13	9	0	12	8	8	13	4	12
Osage.....	33	11	6	28	22	4	26	7	8
Osborne.....	26	9	10	22	12	7	16	6	11
Ottawa.....	22	11	4	23	18	9	22	7	14
Pawnee.....	23	8	0	12	10	3	23	3	5
Phillips.....	14	10	8	14	3	5	25	3	10
Pottawatomie.....	34	17	9	33	15	0	42	11	5
Pratt.....	17	9	10	24	7	11	34	7	7
Rawlins.....	12	4	3	15	3	2	8	2	4
Reno.....	69	31	35	32	23	35	70	25	41
Republic.....	47	14	6	28	14	9	30	8	9
Rice.....	28	12	8	34	9	7	26	10	10
Riley.....	28	20	10	25	11	10	40	15	9
Rooks.....	19	6	6	28	9	6	21	7	9
Rush.....	19	7	4	18	11	5	14	3	3
Russell.....	14	5	17	17	12	8	14	7	2
Saline.....	39	16	16	34	23	17	24	10	20
Scott.....	5	1	2	5	0	0	3	2	3
Sedgwick.....	115	83	77	126	84	68	93	48	105
Seward.....	8	7	5	10	1	3	9	2	0
Shawnee.....	108	94	49	114	111	57	131	88	86
Sheridan.....	9	1	2	9	1	1	11	0	3
Sherman.....	13	5	4	13	2	2	15	4	5
Smith.....	30	8	11	21	11	11	27	6	15
Stafford.....	19	13	3	22	15	11	17	9	5
Stanton.....	0	4	0	0	1	0	0	0	1
Stevens.....	2	2	3	1	0	5	5	0	3
Sumner.....	91	26	13	61	13	14	49	17	23
Thomas.....	7	0	3	4	4	2	2	4	3
Trego.....	4	6	0	11	1	3	9	3	5
Wabaunsee.....	11	6	2	26	10	5	21	12	6
Wallace.....	5	0	1	7	1	1	3	2	0
Washington.....	59	18	11	48	22	9	45	16	13
Wichita.....	1	1	1	1	2	0	4	0	2
Wilson.....	27	19	12	51	24	0	46	19	23
Woodson.....	19	9	8	24	9	7	13	11	15
Wyandotte.....	217	156	99	164	141	134	233	123	141

DEATHS IN KANSAS,

Months of July, August, and September, 1913.

Stilldeaths not included.

Typhoid fever.....	157	Diarrhea and enteritis (under 2 years)....	463
Smallpox	2	Diarrhea and enteritis (2 years and over),	215
Measles	9	Appendicitis.....	58
Scarlet fever.....		Diseases of liver and adnexa.....	81
Whooping cough.....	36	Peritonitis.....	24
Diphtheria.....	19	Other diseases digestive system.....	182
Dysentery	17	Acute nephritis.....	13
Tuberculosis, all forms.....	231	Bright's disease.....	229
Cancer, all forms	242	Other diseases genito-urinary system.....	66
Rheumatism, all forms.....	46	The puerperal state.....	46
Diabetes.....	38	Diseases of the skin, etc.....	14
Other general diseases.....	136	Diseases of the bones, etc.....	5
Meningitis.....	48	Malformations.....	56
Cerebral hemorrhage.....	222	Diseases of early infancy.....	373
Paralysis	120	Old age.....	228
Other diseases nervous system.....	163	Suicides.....	51
Organic heart disease.....	349	Accidents.....	297
Other diseases circulatory system.....	114	Homicides	22
Broncho-pneumonia	40	Ill-defined diseases	110
Pneumonia	43	Total deaths.....	4,563
Other diseases respiratory system.....	48		

AGES AT DATE OF DEATH.

Ages.	No.	SEX.	No.
-1.....	820	Males.....	2,481
1-2.....	343	Females.....	2,082
3-5.....	91	Total.....	4,563
6-10.....	101		
11-15.....	91	COLOR.	
16-20.....	136	White.....	4,270
21-25.....	170	Chinese.....	0
26-30.....	143	Indian.....	8
31-35.....	134	Black.....	285
36-40.....	157	Total.....	4,563
41-45.....	153		
46-50.....	160	SOCIAL CONDITION.	
51-60.....	374	Single.....	1,896
61-70.....	599	Married.....	1,725
71-80.....	676	Widowed.....	842
81-90.....	367	Divorced.....	44
91-100.....	44	Unknown.....	56
100-+.....	1	Total.....	4,563
Unknown.....	3		
Total.....	4,563	NATIONALITY.	
		Native.....	3,815
		Foreign.....	661
		Unknown.....	97
		Total.....	4,563

BIRTHS.

Males.....	4,607
Females.....	4,412
White, 8,806. Colored, 214. Indian, 0.	
Total births, 9,019.	

A Sewage Disposal Plant for a Single Residence.

C. A. HASKINS, Engineer in Charge, State Board of Health.

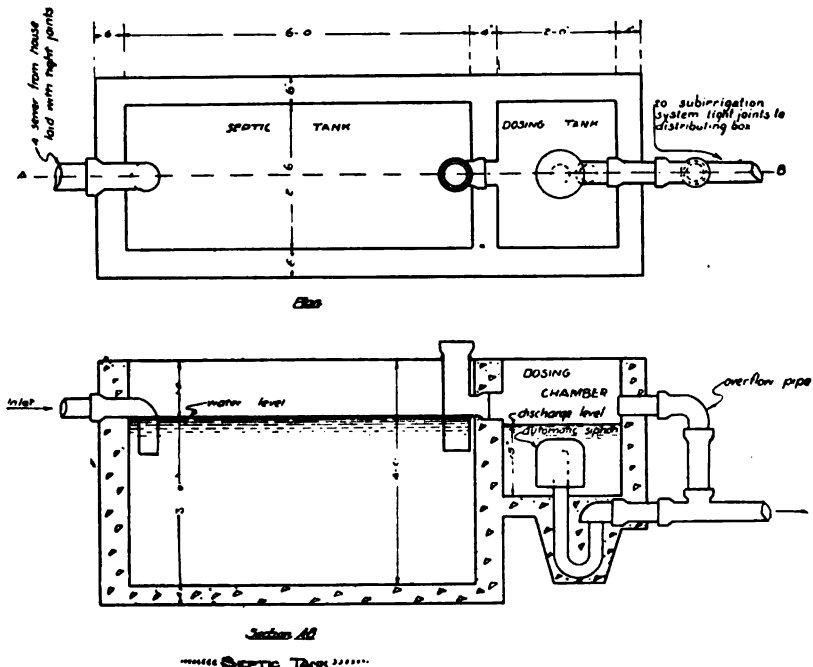
In the disposal of sewage from an isolated residence or hotel supplied with water and toilet facilities there are three problems to be considered: First, the separation of the solid from the liquid matter; second, the disposal of the solid matter; and third, the disposal of the liquid matter. Each of these three factors is important and can be carried out with a small outlay and without great difficulty, securing an adequate and satisfactory riddance of an otherwise dangerous and disagreeable substance.

It has been discovered that the solid matter which settles out of ordinary domestic sewage, when allowed to settle in a tight compartment under "anaërobic" conditions (meaning without light and air) will be attacked by a type of bacteria which flourishes under these conditions, and will be partially liquefied and gasified, the remaining substance, known as sludge, being usually an objectionable, finely divided material resembling rich earth, when dried out. To bring about these conditions the septic tank has been devised.

The liquid part of the sewage, after flowing through the septic tank, has lost most of its suspended solid matter, but still contains some finely divided solids and some dissolved organic matter. These must be disposed of by "oxidation," and it may be done by dilution in water, by filtration, or by subirrigation. For small plants of the kind discussed in this article, subirrigation, the draining of the liquid matter out into the soil where the oxidizing bacteria of the upper soil layers may work on it, is the most economical and satisfactory.

The septic tank shown in the accompanying drawing is shown of concrete, but it may be built of brick or masonry just as well. If of concrete, the mixture should be 1:3:5, mixed not too wet, and well tamped into place. If the tank is built of brick, the brick should be laid in rich cement mortar, all joints well filled and the cross wall bonded in with the side walls at every alternate course. In either case, after the mortar or concrete has had time to "set," the excess earth from the excavation should be well tamped around the sides, and the inside of the tank should be plastered with a one-half-inch coat of rich cement mortar. The inlet and outlet pipes and the siphon should be carefully set to the proper elevation shown on the drawing. It is important that the inlet and outlet pipes extend down below the water level to escape clogging by the scum which forms on top of the sewage. The top may be of concrete

or wood, although wood is preferable on account of the fact that it may be so constructed that it may be all lifted off, affording ingress to the tank in case of stoppage. Ordinary 2x12-inch cypress lumber, with suitable 2x6-inch braces, are often used for roofs, with hinges on one side and a hasp on the other, for holding it closed. In case concrete is used for the roof, a manhole should be placed in both the tank proper and the dosing tank for ingress to the tank. In any event, the ventilating pipe should be in place as shown.



CONSTRUCTION DETAILS
SEWAGE DISPOSAL PLANT

FOR
SINGLE RESIDENCES

Scale 1/2" = 1'-0"

The siphon—which may be procured from the Pacific Flush Tank Company, of Chicago; Merritt & Company, of Philadelphia, or other manufacturers of automatic flushing devices, for about \$20—is necessary to the proper working of the system, for if the sewage is allowed to trickle out into the drain tile as it comes into the tank from the house, most of it will leach out into the soil at

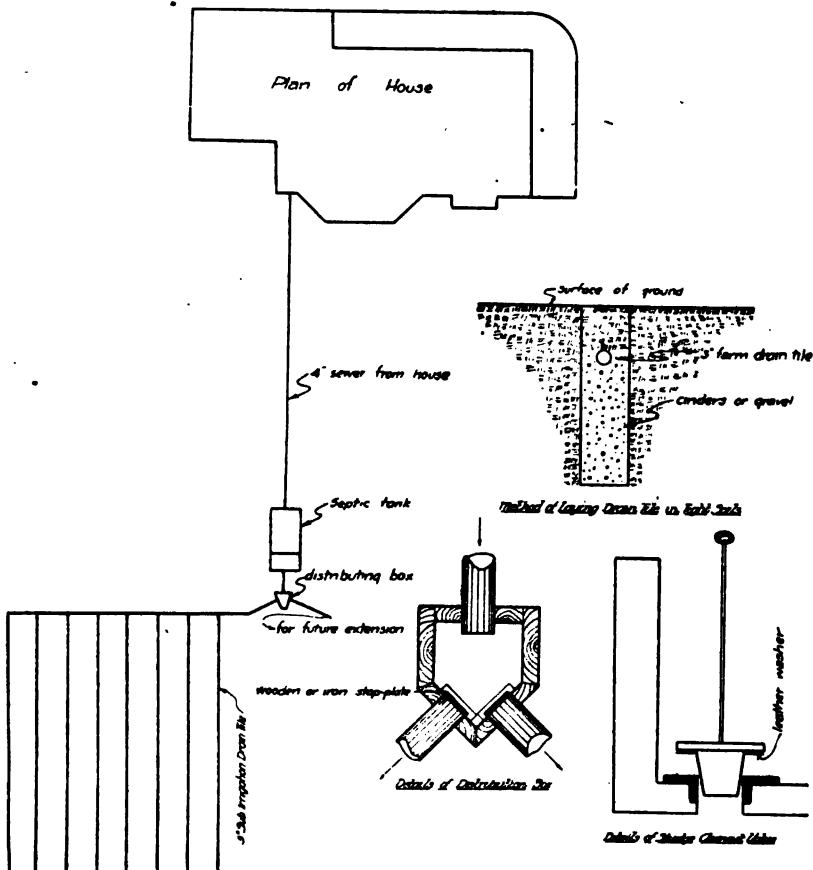
the first few open joints, causing the ground there to become sour and foul smelling, and the full efficiency can not be obtained. With the siphon working properly, the effluent will be held in the dosing chamber until the proper elevation is reached, when it will all be rapidly discharged into the drain system.

The connection from the house to the tank should be of 4-inch vitrified sewer pipe of the bell-and-spigot type. It should be laid to an even grade and alignment, and great care should be taken to see that all the joints are well filled with cement mortar, with a full bevel. This is especially important if the line passes through a grove of trees or through a swamp or low land—in the first case to prevent the entrance of fine roots, which will in time clog the sewer; and in the second case to prevent the infiltration of ground water.

The pipes for the distribution system should be sound, hard-burned, three-inch agricultural drain tiles, in one-foot lengths. If necessary to reach a desirable location for the subirrigation system, the siphon may discharge into a four-inch sewer, laid the same as the house connection, but on a grade of not less than 2 feet in 100 feet, to a diverting box or manhole, out of which the drain tile may lead in one or more lines. They should be laid at a depth of from a foot to eighteen inches below the surface of the ground, and should be laid on a grade of 3 inches in 100 feet. This matter of grade, or "fall," should receive careful attention, since if the grade is too great the lower end of the pipe will receive more than its fair proportion of sewage, while if the grade is too small the upper end will receive too much.

The length of this three-inch pipe should be proportioned according to the nature of the soil. If the soil is quite open and sandy, approximately 200 feet will be sufficient for the sewage from an ordinary residence, while if the soil is of a closer texture, 300 or 400 feet or even more will be necessary. The system is not well adapted to very tight and retentive clay soils, though it has been used successfully for a time in soils of this character. A desirable though somewhat costly modification that has been successfully used in tight soils consists in digging the trench about four feet deep, filling the lower three feet or so with cinders or gravel, and then laying the three-inch distribution tiles at the surface of this porous filling material and covering them with about a foot of earth. The total length of distribution tiles deemed necessary for any particular installation may be laid in one or more single lines extending out from the dosing chamber, or a single line may be divided

into two or more branches, as indicated in the drawing. In case more than a single line is used, great care should be taken to see that each line receives its fair share of the septic tank effluent. Where the natural slope of the ground is steeper than the grade required by the distribution lines, these may be zigzagged down the hill.



It should be the expectation that once in from one to four or five years the tank will require cleaning out, the frequency depending largely upon the character of the sewage. The sludge taken from the tank at these cleaning periods will be found to be relatively small in amount, and may be best disposed of by running it into a trench or furrow and covering it over with soil. This cleaning out should be done in the fall of the year, if possible, as at this season the sludge in the tank possesses less odor and is less

objectionable to handle than at other times. The sludge clean-out valve shown in the illustration may be built for this purpose, but it is not essential, as an ordinary "pitcher" pump may be used.

It should also be expected that every few years the distribution tiles will have to be taken up and relaid in a new trench a few feet away from their former position. This is simply because there is a gradual choking up of the open spaces in the soil, with the result that the soil immediately adjacent to the pipes may become water-logged and sour.

Particularly for those parts of the state where the rainfall is such that the water of the sewage, as well as its fertilizing constituents, has an appreciable value, the disposal schemes outlined above may have a considerable economic as well as important sanitary value. It is quite possible by this method to maintain in the driest region a large, well-fertilized and well-watered lawn. The process should be carried on entirely without odor, though, of course, the septic tank should be located at some little distance from the house—say a hundred feet or more—if possible. Especially, the disposal plant should not be near any open well which is used as a source of water supply.

This plant is automatic in operation, but nevertheless will require some care. It should be carefully inspected occasionally to see that none of the pipes are stopped up, that the tank itself is not completely sludged up, and that the siphon is working properly. However, if the plant is carefully built according to the drawing and the directions included herein, it should give good general satisfaction.

The Flueless Gas Heater.

At this time of the year, when many feel that it is not cold enough to use the general heating system of the house, but is too cool to be entirely without heat, the use of portable gas or oil heating apparatus is a great convenience. Cleanliness and comparative low cost of operation make this type of heating deservedly popular. Unfortunately, many of these heaters are used without a flue-pipe to carry off the products of combustion. The use of such heaters is to be deprecated. This is especially true of those devices of low efficiency that make it practically imperative that the doors and windows be kept closed if the object sought—that of raising the temperature of the room—is to be obtained. These heaters put a premium on insufficient ventilation. The current issue of a high-class monthly magazine carries a full-page advertisement of a gas

heater that is specifically recommended for use in the children's play room. It is advertised as "the ideal heater for the nursery," and in heavy type the claim is made that it "will not vitiate the air." Such advertisements are dangerous, says *The Journal of the American Medical Association*. There may be times when one is willing to sacrifice health for comfort for a short time; when an increase of temperature in the room is sought, even at the expense of vitiated air. When this is done with a full knowledge of possible danger, it may not be too severely criticized. But to lead people to believe that any room can be heated healthfully for any length of time by means of flueless gas or oil heaters is dangerous doctrine. An efficient gas or oil heater with a flue attachment is an admirable piece of household apparatus; a flueless heater—except for the most temporary of uses, and then used with a full knowledge of the dangers involved—is an abomination.

Nose-Blowing Drills.

A few years of school dental clinics have made "toothbrush drills" a fairly familiar idea in many cities. It took the Toronto public nurses, or rather their supervisor, Lina L. Rogers, to originate another drill quite as unique and important. Since last October the school children of Toronto, in squads of twenty, have practiced daily "nose-blowing drills," and the effect on the freshness of the atmosphere of the schoolrooms has been so noticeable that the teachers have become assiduous in seeing to it that no child comes to school unprovided with a pocket handkerchief. They often, indeed, themselves order the drills without waiting for the coming of the nurse. The effect of the drill is perceptible already on individual children, in cases of catarrh, and the doctors predict that it will have an appreciable effect in time in lessening adenoids and other throat and nose affections.—*The Survey*.

CONTAGION.

Little George had heard a great deal said about disease germs, such as tuberculosis, etc. One day the family were at dinner, and George wanted a drink of water. The tired mother said:

"Drink out of your uncle's glass, George; he is through eating."

The little fellow commenced to cry, and said:

"I don't want to. I'm afraid I will catch the backache."—*Exchange*.

EPIDEMIOLOGICAL.

Milk as a Carrier of Typhoid Infection.

That milk and milk products may be carriers of typhoid infection is a probability always considered by the medical profession. Too often, however, the assertion is based on presumption, and due investigation, whereby definite conclusions may be reached, is rarely completed. The following instance emphasizes the possibility of danger in this important food product

On August 30 the attention of the department was directed by Dr. J. C. Cornell, city health officer of Parsons, to the fact that in the previous two days ten cases of typhoid fever had been reported in that city. New cases continued to develop daily until September 9. At the outset of the epidemic Doctor Cornell had observed that all cases were located on one certain milk route. Having visited the dairy from which milk was supplied earlier in the month, observing that water from a shallow well was being used for washing milk vessels, and having directed that it should be sterilized, he was unable to account for the infection. Knowing that the dairyman was anxious and willing to adhere closely to his instructions, he requested the assistance of the state department in tracing the source of the infection.

The following table and conclusions are the result of the study of the situation:

Case.	Age.	Date reported.	Groceries, store No.	Meat, market No.	Milk, dairy No.	Water supply.	Sewage disposal.	Screens.
1	12	Aug. 28.....	1 and 2	1	1	City.....	Sewer.....	Yes.
2	9	Aug. 28.....	1 and 2	1	1	City.....	Sewer.....	Yes.
3	13	Aug. 28.....	2	3	1	Well.....	Privy.....	Yes.
4	10	Aug. 29.....	2 and 5	1	1	Well.....	Privy.....	Yes.
5	7	Aug. 29.....	10	4	1	City.....	Sewer.....	Yes.
6	24	Aug. 29.....	11	4	1	City.....	Privy.....	Yes.
7	29	Aug. 29.....	9 12-13	1	1	City.....	Sewer.....	Yes.
8	32	Aug. 29.....	8	4 and 5	1	City.....	Sewer.....	Yes.
9	8	Aug. 29.....	14	5	1	City.....	Sewer.....	Yes.
10	16	Aug. 29.....	3	2	1	City.....	Sewer.....	Yes.
11*		Sep. 1.....			Own cow.	Well.....	Privy.....	
12	32	Sep. 2.....	3-13	2 and 4	1	City.....	Sewer.....	Yes.
13	10	Sep. 2.....	15	5	1	City.....	Privy.....	Yes.
14*		Sep. 2.....			Own cow.	Well.....	Privy.....	
15	16	Sep. 3.....	3 and 4	2	1	City.....	Sewer.....	Yes.
16	52	Sep. 3.....	11	4	1 and 2	City.....	Sewer.....	Yes.
17	22	Sep. 3.....	5	4	1	City.....	Sewer.....	Yes.
18*		Sep. 3.....						
19	21	Sep. 4.....	18	1	1	City.....	Sewer.....	Yes.
20	60	Sep. 5.....	16 and 17	5	1	City.....	Sewer.....	Yes.
21	28	Sep. 5.....	7-8-9	1	1	City.....	Sewer.....	Yes.
22	14	Sep. 8.....	9-19-20	5	Own cow.	Well.....	Privy.....	Non e.
23	13	Sep. 9.....	9-19-20	5	1	Well.....	Privy.....	Yes.

* Outside city limits.

CONCLUSIONS.

1. Cases 11, 14 and 18 reported beyond city limits. Diagnosis in case 11 later proved incorrect, as Widal reaction proved negative. Cases 14 and 18 probably sporadic.

2. Ages of cases precluded a common social dinner function where infection could have occurred, and none could be heard of.

3. Food supplies were obtained by these twenty-three cases from twenty different grocery stores, and no source of vegetable or raw food products seem common to any of them.

4. Meat supplies obtained from five different meat markets.

5. Cases all occurred west of M. K. & T. railway tracks, and patrons of these same grocery stores and meat markets in other parts of town were not infected.

6. In sixteen cases drinking water was obtained from city mains; six used private wells, while in one, the hospital case, it was not known. Users of city water in other parts of city not affected.

7. In fifteen cases homes were connected with sewer. Six, including two cases in country, used outside common earth privy vaults. Some of these latter investigated and found very unsanitary.

8. All houses screened but one.

9. Nineteen were users of milk from dairy No. 1 exclusively, one used milk from dairy No. 1, and occasionally from another dairy, while three, including two country cases, owned cows and purchased no milk. Milk route from dairy No. 1 covered entire west side of tracks from north edge of city to south. No cases during the period were observed east of railway tracks.

10. Investigation failed to establish any other common source of food supply, such as ice cream, vegetable vendors, etc.

All conclusions tended to confirm Doctor Cornell's first suspicion of infection at dairy.

Widal and urine examinations of owner and all employees at dairy No. 1 proved negative.

Inquiry of employees developed the fact that water in which milk bottles and vessels were washed had been boiled, and all containers thoroughly scalded. *The technique were broken, however, when, as a final step, all bottles were cooled by unboiled water direct from well.*

The bacteriological investigation of milk and water samples follows:

BACTERIAL EXAMINATION.

Laboratory No.....	6026-84	6026-143	6026-88	Milk.
Source.*.....	Tap.	Between dams.	Dairy well.	
Bacteria per cc. on gelatine, at 20°, 48 hrs.;				
agar, at 37°, 24 hrs.....	25	200	80,000	7,200,000
Presumptive tests for <i>B. coli</i> :				
Number of positive fermentations—				
In one 10 cc. tube.....	+	+	+	+
In five 1 cc. tubes.....	4+, 1—	5+	5+	5+
In five .1 cc. tubes.....	1+, 4—	3+, 2—	5+	5+
In five .01 cc. tubes.....	.....	.....	5+	5+
In 0.001.....	.....	.....	.....	5+
In 0.0001.....	.....	.....	.....	5+

*Collected by Doctor Cornell. Date of collection September 8, 1913. Analysis completed September 11, 1913; typhoid determination finished September 13, 1913.

It is interesting to note that this analysis disclosed an infected city water supply which had not been suspected, and lends a slight element of doubt to the definite conclusion that the well at the dairy was wholly to blame.

As noted before, however, users of city water in portions of city other than on milk route were not affected, and infections ceased on closing of dairy well.

Thanks are due Dr. J. C. Cornell and Dr. J. G. Missildine, of Parsons; Prof. C. A. Haskins, state sanitary engineer; and Miss Myrtle Greenfield, bacteriologist for State Water Survey laboratory, for assistance in this investigation.

Make Your Own Brass Lacquer.

By MARY SHIVELY HOLMES.

Brass door-knockers, candlesticks, bowls, and the like, tarnish rapidly unless covered with a thin transparent coat of a good lacquer. Yet dealers make you pay well for it, so the accompanying recipe will be of value.

In one pint of denatured alcohol and one-fourth pint of amyl alcohol dissolve two ounces of powdered gum copal. The gum is slow to dissolve, so you will have to put the mixture into a bottle and shake occasionally for a day or two. Then let settle another day or so, and pour off the clear liquid into another bottle. This may be applied with a small brush; a very thin coat is sufficient. Of course the brass should be well polished first.

Controversy equalizes fools and wise men.—*Holmes*. (But will a wise man argue?)

TO-DAY.

Sure, this world is full of trouble—
I ain't said it ain't.
Lord! I've had enough, an' double,
Reason for complaint.
Rain an' storm have come to fret me,
Skies were often gray;
Thorns an' brambles have beset me
On the road—but, say,
Ain't it fine to-day?

What's the use of always weepin',
Makin' trouble last?
What's the use of always keepin'
Thinkin' of the past?
Each must have his tribulation,
Water with his wine.
Life it ain't no celebration.
Trouble? I've had mine—
But to-day is fine.

It's to-day that I am livin',
Not a month ago;
Havin', losin', takin', givin',
As time wills it so.
Yesterday a cloud of sorrow
Fell across the way;
It may rain again to-morrow;
It may rain—but, say,
Ain't it fine to-day?

—*Douglas Malloch.*

BULLETIN

OF THE

Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

S. J. CRUMBINE, M. D., Editor.

Entered as second-class matter, March 5, 1906, at the post office at Topeka, Kan.,
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No. 12.

DECEMBER, 1913.

VOL. IX.

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All "catching" diseases are preventable.

My people are destroyed for lack of knowledge.—Hosea, iv: 6.

Cold weather injunction: Keep your feet warm and your head cool.

Kentucky is trying to establish the municipal abattoir. Good luck to "Old Kentuck."

In the tax-rate *versus* death-rate controversy the tax-rate usually wins. Oh, the pity of it!

In order to inform many inquirers, it is announced that no Health Almanac will be issued this year.

When the prophet Hosea declared that "Ephraim is a cake not turned," he may have had in mind the untrained health officer.

It is not the size of your stomach, liver and lungs that counts in preserving health, but the way they functionate and the care they are given.

The one quality more than any other which is essential for a successful life is efficiency, and that, in turn, is largely conditioned upon physical health.

Put not your trust in patent-medicine advertisements, nor go in the way of the quack doctor, for they promise help where there is no help, and never, no never, "deliver goods."

MORBIDITY STATISTICS

Reported to the State Board of Health for November, 1913.

CONTAGIOUS AND INFECTIOUS DISEASES.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.
State, totals, 1913.....	151	9	112	6	109	5	83	0	49	1
October, 1912.....	197	26	88	8	188	3	7	0		
Allen.....	6	0	1	0	0	0	0	0	0	0
Anderson.....	0	0	0	0	0	0	0	0	0	0
Atchison.....	0	0	0	0	1	0	0	0	0	0
Barber.....	1	0	0	0	0	0	0	0	0	0
Barton.....	0	0	0	0	0	0	0	0	0	0
Bourbon.....	0	0	0	0	0	0	0	0	0	0
Brown.....	1	0	3	0	0	0	0	0	0	0
Butler.....	1	0	2	0	0	0	0	0	0	0
Chase.....	0	0	0	0	0	0	4	0	0	0
Chautauqua.....	2	0	1	0	5	0	0	0	0	0
Cherokee.....	11	0	9	0	0	0	0	0	0	0
Cheyenne.....	0	0	0	0	0	0	0	0	0	0
Clark.....	0	0	0	0	0	0	0	0	0	0
Clay.....	0	0	0	0	0	0	0	0	0	0
Cloed.....	2	0	0	0	0	0	0	0	0	0
Coffey.....	0	0	3	1	0	0	0	0	0	0
Comanche.....	0	0	0	0	0	0	1	0	0	0
Cowley.....	0	0	1	0	6	0	1	0	0	0
Crawford.....	2	1	7	2	1	0	14	0	31	1
Decatur.....	0	0	0	0	0	0	0	0	0	0
Dickinson.....	1	0	2	0	0	0	0	0	0	0
Doniphan.....	1	0	0	0	1	0	0	0	0	0
Douglas.....	3	0	0	0	1	0	0	0	1	0
Edwards.....	0	0	0	0	2	0	0	0	0	0
Elk.....	2	0	0	0	0	0	0	0	0	0
Ellis.....	0	0	0	0	0	0	0	0	0	0
Ellsworth.....	1	0	0	0	0	0	0	0	0	0
Finnay.....	0	0	0	0	0	0	9	0	0	0
Ford.....	0	0	1	0	0	0	11	0	0	0
Franklin.....	2	0	0	0	2	0	5	0	0	0
Geary.....	0	0	0	0	0	0	0	0	0	0
Gove.....	0	0	0	0	0	0	0	0	0	0
Graham.....	0	0	0	0	0	0	0	0	0	0
Grant.....	0	0	0	0	0	0	0	0	0	0
Gray.....	1	0	0	0	0	0	0	0	0	0
*Grealey.....										
Greenwood.....	4	0	0	0	2	0	5	0	0	0
Hamilton.....	0	0	0	0	0	0	0	0	0	0
Harper.....	3	0	0	0	0	0	0	0	0	0
Harvey.....	1	0	0	0	0	0	0	0	0	0
Haskell.....	0	0	0	0	0	0	0	0	0	0
Hodgeman.....	0	0	0	0	0	0	0	0	0	0
Jackson.....	1	0	0	0	0	0	0	0	0	0
Jefferson.....	0	0	3	0	2	0	0	0	0	0
Jewell.....	0	0	0	0	2	0	0	0	0	0
*Johnson.....										
Kearny.....	2	0	0	0	0	0	0	0	0	0
Kingman.....	0	0	7	0	3	0	0	0	0	0
Kiowa.....	0	0	0	0	0	0	0	0	0	0
Labette.....	15	1	3	0	0	0	0	0	0	0
Lane.....	0	0	0	0	0	0	0	0	3	0
Leavenworth.....	3	0	2	0	0	0	0	0	0	0
Lincoln.....	0	0	0	0	0	0	0	0	0	0
Linn.....	1	0	0	0	0	0	0	0	0	0
*Logan.....										
Lyon.....	1	1	3	0	0	0	0	0	1	0
Marion.....	11	1	0	0	3	1	0	0	2	0
Marshall.....	0	0	0	0	1	0	0	0	0	0
McPherson.....	0	0	0	0	0	0	0	0	0	0
Meade.....	1	0	0	0	0	0	0	0	0	0

*No report from health officer.

CONTAGIOUS AND INFECTIOUS DISEASES—Continued.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.
Miami.....	1	0	0	0	0	0	0	0	0	0
Mitchell.....	1	0	9	0	0	0	0	0	0	0
Montgomery...	1	0	0	0	1	0	0	0	1	0
Morris.....	3	0	1	0	5	0	0	0	0	0
Morton.....	0	0	0	0	0	0	0	0	0	0
Nemaha.....	0	0	0	0	2	0	0	0	2	0
Neosho.....	2	1	5	0	1	0	0	0	0	0
Ness.....	0	0	0	0	3	0	0	0	0	0
Ness.....	1	0	0	0	0	0	0	0	0	0
Norton.....	1	0	15	0	0	0	0	0	0	0
Osage.....	1	0	0	0	0	0	0	0	0	0
Osborne.....	2	0	0	0	0	0	0	0	0	0
Ottawa.....	0	0	0	0	0	0	0	0	0	0
Pawnee.....	0	0	0	0	0	0	0	0	0	0
Phillips.....	1	0	0	0	0	0	0	0	0	0
Pottawatomie...	0	0	0	0	0	0	0	0	0	0
Pratt.....	1	0	0	0	1	0	0	0	0	0
Rawlins.....	0	0	0	0	4	1	0	0	0	0
Reno.....	1	0	0	0	0	0	12	0	0	0
Republic.....	0	0	0	0	0	0	0	0	0	0
Rice.....	0	0	1	0	1	0	0	0	0	0
Riley.....	1	1	0	0	0	0	0	0	0	0
Rooks.....	0	0	0	0	0	0	0	0	0	0
Rush.....	2	0	0	0	0	0	0	0	0	0
Russell.....	1	0	1	0	1	0	0	0	0	0
Saline.....	1	1	0	0	0	0	0	0	0	0
Scott.....	3	0	0	0	0	0	0	0	0	0
Sedgwick.....	0	0	0	0	0	0	0	0	0	0
Seward.....	0	0	2	0	3	0	1	0	0	0
Shawnee.....	0	0	0	0	0	0	0	0	0	0
Sheridan.....	0	0	0	0	0	0	0	0	0	0
Sherman.....	0	0	5	2	0	0	0	0	0	0
Smith.....	0	0	0	0	0	0	0	0	0	0
Stafford.....	0	0	0	0	0	0	0	0	0	0
Stanton.....	2	0	0	0	0	0	0	0	0	0
Stevens.....	4	0	1	0	0	0	0	0	0	0
Sumner.....	0	0	0	0	0	0	0	0	0	0
Thomas.....	0	0	0	0	0	0	0	0	0	0
Trego.....	0	0	0	0	0	0	0	0	0	0
Wabunsee.....	0	0	0	0	3	0	0	0	0	0
Wallace.....	0	0	0	0	0	0	0	0	0	0
Washington.....	5	0	0	0	0	0	0	0	0	0
Wichita.....	0	0	0	0	0	0	0	0	0	0
Wilson.....	3	0	0	0	4	0	0	0	0	0
Woodson.....	2	0	0	0	0	0	0	0	0	0
Wyandotte.....	1	1	0	0	2	1	0	0	0	0
Cities:										
Atchison.....	2	0	1	1	9	1	0	0	0	0
Coffeyville.....	2	0	4	0	2	0	0	0	0	0
Fort Scott.....	2	0	0	0	0	0	1	0	4	0
Hutchinson.....	3	0	1	0	0	0	0	0	1	0
Independence.....	3	0	7	0	16	0	17	0	0	0
Kansas City.....	2	0	4	0	0	0	0	0	0	0
Lawrence.....	2	1	2	0	5	0	0	0	0	0
Leavenworth.....	2	0	0	0	0	0	0	0	1	0
Parsons.....	2	0	0	0	2	0	0	0	0	0
Pittsburg.....	0	0	0	0	7	1	0	0	0	0
Topeka.....	3	0	2	0	2	0	2	0	0	0
Wichita.....	0	0	0	0	0	0	0	0	0	0

† No health officer.

* No report from county health officer.

False Advertising.

It is becoming increasingly evident that the enactment and fairly efficient enforcement of the national and state food and drugs law has not secured to dealers and consumers freedom from fraud and deception in food and drug products.

False and misleading statements, designs and devices that appear in any place than upon the label attached to the package, or the false and deceptive methods used by designing agents, salesmen or manufacturers, can not be reached or prevented by resort to the food and drugs law, and thus in many instances the public continues to suffer by reason of gross misrepresentation of one kind or another. Take, for illustration, the false, extravagant, and, in their final effect, often harmful claims of many of the fake nostrums and appliances which appear in glaring advertisements in newspapers, circulars or pamphlets, or given by word of mouth by an agent to a prospective customer—in such cases the food and drugs law is powerless to protect the purchaser.

In the "Book of Instruction for Users of the Perfected Oxygenor King" we read that this wonderful appliance is recommended to treat 134 diseases named, including appendicitis and barrenness, cerebrospinal meningitis and change of life, consumption and creeping palsy, dropsy and dysmenorrhœa, enlargement of the womb and epilepsy, felons and fits, goiter and gonorrhœa, mumps and difficult menstruation, sour stomach and softening of the brain, tapeworm and whooping copgh, and so on to the end of the nauseous list, and all for the small sum of \$25 or \$35, according to the terms of the traveling agent.

It seems incredible that fairly intelligent people will be so easily deluded by such self-evident frauds, for the theory advanced by the promoters is that ozone (a gas) "is designed to flood the system," although this gas is supposed to be conveyed through solid copper wires. An inquirer recently wrote in in a way that indicated he had scented the rodent, for the said, "It seems that the place for this appliance is on the 25-cent counter." The reply commended him on his smelling ability, but suggested his price was too high, the 5-cent counter being nearer its true value.

Another illustration of fraudulent advertising is that of the methods of a certain baking-powder company whose agents

and demonstrators are instructed to make what is called "the water-glass tests." Several baking powders are used, a small quantity of each being placed in a glass and water added. The baking powder of this particular manufacture contains a small quantity of albumen, and this powder containing the albumen foams to the top of the glass, the dissolved albumen making a more or less viscous liquid, which retains the gas bubbles; the other powders, which do not contain albumen, simply foam up, the gas escaping into the air. The spectator sees the powder containing the albumen foam up to the top or over the top of the glass, while the other powders have but few bubbles; the opportunity is thus presented to the demonstrator or agent to represent to the housewife or prospective customer that the leavening power of the baking powder showing the glass full of bubbles is very much greater than that of the powders which do not make this showing, and thus a fraud is practiced, in that the albumen powder is made to appear better than it really is, or, conversely, the other powders are made to appear worse than they really are.

This test is deceptive, and is no indication of the rising power of the respective baking powders. Such a demonstration is no test of strength, and is no reason why the consumer should pay more for baking powder which foams, and is retained in the glass because of the albumen content, than is paid for powder of the same leavening power which contains no albumen, and will, therefore, not foam and retain the bubbles when the water is added to it. The amount of albumen which is added to the baking powder is only a fraction of one per cent, and its cost is negligible.

Patent medicines, food products and baking powders should be sold for exactly what they are, and false representations of any kind are frauds upon the purchaser. It is for these reasons that a false-advertising law is imperatively necessary as a supplement to the food and drugs laws.

A CURE FOR THE CIGARETTE HABIT.

Since cigarettes seem less provoking
Unto the ones who do the smoking,
Oh, won't some power just please compel 'em,
To smell themselves as others smell 'em.

—*Daily Kansan.*

DRUG ANALYSIS No. XLVII.

L. E. SAYRE, Director; L. D. HAVENHILL, Chief; G. N. WATSON, Analyst;
C. M. STERLING, Microscopist.

The present report includes a number of drugs and preparations to which special attention should be called.

TINCTURE OF ASAFÆTIDA. The variability of this preparation is largely due to the different deviations of the gum from the standard. Some of these, having a special brand name, and seemingly giving the buyer assurance of exceptional purity, are very far from being pure. According to the Pharmacopœia, not less than 50 per cent of the gum should be soluble in alcohol, and when incinerated should not yield more than 10 per cent of ash. In the September BULLETIN of this department, page 175, attention was called to certain trade articles, such as Glycerited Asafætida, in which the ash residue ranged from 34.2 to 50.2 per cent. The alcoholic soluble portion ranged from 39 to 53 per cent. The soluble material, however, was not all asafætida, part being glycerine. One of these glycerinated preparations contained stones of considerable size. These stones are selected to resemble, in color (pinkish) and mottled appearance, the gum itself—certainly no accidental impurity. Druggists using these preparations do so at their own risk, since attention has been called to their inferiority.

CREAM OF TARTAR. The samples examined were of high grade.

SWEET SPIRITS OF NITRE. This is a most troublesome preparation to spur up to standard. Six samples were examined; all below standard, one very badly off.

ESSENCE OF PEPPERMINT. Sample No. 6162 is most remarkable, showing 27.1 per cent oil and 19 per cent of added water. This would seem impossible, but facts are as stated. This essence was adulterated in the wrong direction; economically, less oil and more alcohol would have made a better manipulation.

SPIRIT OF CAMPHOR. Sample No. 6153 showed a serious adulteration of the alcohol used and a large deficiency of camphor.

TINCTURE OF IODINE.*

Lab. No.	Insp. No.	NAME AND CITY.	G ms. KI in 100 cc.	Gms. I in 100 cc.	Remarks.
6156	20685	Woodston Pharmacy, Woodston.....	5.65	7.78	Above standard.
6187	20611	H. S. Willard & Co., Manhattan.....	5.71	7.44	Above standard.
6150	20653	Dr. C. C. Stillman, Morganville.....	2.86	5.13	Below standard.

* Tincture of iodine should contain 5 grams potassium iodide, and should show by assay at least 6.86 gms. of iodine.

TINCTURE OF ASAFCETIDA.*

Lab. No.	Insp. No.	NAME AND CITY.	Per cent alcohol.	Per cent extractive.
6117	20696	A. E. Topping, Overbrook.....	85.8	5.12
6129	20601	Stratton's Pharmacy, Lawrence.....	79.0	2.69
6131	20602	Wilson's Pharmacy, Lawrence.....	86.9	2.43
6138	20612	N. E. Engel, Manhattan.....	83.2	5.45

* Tincture of asafoetida, when made according to the U. S. P., contains about 80 per cent alcohol and should contain at least 8 per cent of extractive.

CREAM OF TARTAR.*

Lab. No.	Insp. No.	NAME AND CITY.	Brand.	Ammonia, alum, heavy metals.	Per cent KHC ₄ H ₄ O ₆ .	Remarks.
5942	90110	Coffeyville Mercantile Co., Coffeyville.....	Gauntlet.....		99.00	Full wt.
5945	90117	Wichita Wholesale Grocer Co., Wichita.....	84.....		99.90	Full wt.
5998	90143	Hutchinson Wholesale Grocer Co., Hutchinson.....	Golden Robin.....		99.70	Full wt.
6134	90807	A. Jennings, Clay Center.....	Red Cross.....		99.08	Full wt.

* Cream of tartar should contain not less than 99 per cent potassium bitartrate and should otherwise conform to U. S. P. requirements.

POWDERED MUSTARD.

Lab. No.	Insp. No.	NAME AND CITY.	Brand.	Per cent ash.	Per cent moisture.	Per cent ether ext.	Micro. exam.
5943	90114	Jett-Wood Grocer Co., Wichita.....	Harvest Home..	5.04	5.9	19.9	O. K.
5944	90116	Wichita Wholesale Grocer Co., Wichita.....	84.....	6.12	5.98	18.8	O. K.

OIL OF TURPENTINE.*

Lab. No.	Insp. No.	NAME AND CITY.	Specific gravity.	Refract. index.	Per cent distilling between 155° and 162°.	Nonvolatile in 100 cc.	U. S. P. test for petroleum, benzine, kerosene.
5921	20440	Mrs. R. D. Irwin, Almena.....	.863	1.4704	74.2	1.122	Res. 0.45 cc.
6110	20585	Wm. Dalton & Sons, St. George.....	.876	1.4727	76.7	2.766	Res. 0.30 cc.
6160	20676	Edmond Hardware Co., Edmond.....	.869	1.4714	73.3	1.840	Res. 0.40 cc.

* Oil of turpentine should have specific gravity of .860-.870; the largest part should distill between 155° and 162°; the residue obtained by treating 5 cc. of oil with 20 cc. of H₂SO₄ should not exceed .35 cc.

SWEET SPIRIT OF NITRE.*

Lab. No.	Insp. No.	NAME AND CITY.	Per cent ethyl nitrite.	Remarks.
6149	20652	A. Jennings, Clay Center.....	3.14	Below standard.
6177	20694	J. C. Fuger, Fairview.....	1.42	Below standard.
6184	20707	Arnold Drug Co., Topeka.....	3.17.	Below standard.
6186	20707½	Arnold Drug Co., Topeka.....	3.23	Below standard.
6202	20725	A. B. Buntan, Scranton.....	3.35	Below standard.
6204	20728	Emmet Drug Co., Emmet.....	2.52	Below standard.

* Sweet spirit of nitre should contain at least 4 per cent ethyl nitrite.

ESSENCE OF PEPPERMINT.*

Lab. No.	Insp. No.	NAME AND CITY.	Cc. oil in 100 cc.	Cc. added H ₂ O.	Remarks.
6123	20650	Raymond Drug Store, Lawrence.....	10.92	.....	Passed.
6125	20608	A. Jennings, Clay Center.....	9.01	.....	.....
6051	20542	Nester Drug Co., Minneapolis.....	10.30	.....	Passed.
6132	20680	Shawnee Drug Store, Topeka.....	27.10	19	Adulterated.

* Essence of peppermint should contain 10 cc. oil in 100 cc. of the preparation, and no added water.

SPIRIT OF CAMPHOR.

Lab. No.	Insp. No.	NAME AND CITY.	Per cent camphor.	Cc. added water.	Remarks.
6123	20608	A. Jennings, Clay Center.....	11.1	.....	Passed.
6153	20687	W. S. Quisenberry, Cawker City.....	4.2	16.4	Adulterated.
6154	20658	B. H. Hocket, Cawker City.....	10.0	.....	Passed.

Lab. No. 5977. Insp. No. 20489. "Brown Mixture." W. H. Stone, Kansas City, Kan. Ext. glycyrrhiza, oil of anise, tartar emetic, opium, glycerin, alcohol and camphor were detected. Passed.

Lab. No. 6060. Insp. No. 20553. "Soap Liniment." C. A. Hackner, Hays, Kan. Contained 2.86 per cent camphor and 5.08 per cent total nonvolatile solids. Below standard in camphor content.

Lab. No. 6072. Insp. No. 70261. "F. F. O. G. Soda." Distributed by Ridenour & Baker. H. Penner, Whitewater, retailer. Net weight, 20.4 ounces. Negative test for heavy metals. Contained 99.8 per cent sodium bicarbonate.

ASPIRIN TABLETS.

Lab. No.	Insp. No.	NAME AND CITY.	Grains aspirin.	Declared.
5925	20444	Palace Drug Store, Washington.....	3.71	5 grains.
5959	20468	L. K. Wiles, Kansas City.....	4.66	5 grains.
5964	20475	R. S. Pinegar, Kansas City.....	4.91	5 grains.
5969	20480	Keefer Pharmacy, Kansas City.....	5.42	5 grains.
6019	20480	Palmer Opera House Pharmacy, Salina.....	4.84	5 grains.
6062	20555	Hays Drug Co., Hays.....	4.93	5 grains.
6176	20692	Smith & Lindsey, Horton.....	4.95	5 grains.
6196	20719	Dr. J. J. Rhodes, Cummings.....	3.45	5 grains.

Lab. No. 6076. Insp. No. 80301, "Oil of Cubebs." Richard Blatchley, Fort Scott. Refractive index, 1.4900; rotation, 21.26. Insufficient quantity for specific gravity determination.

Lab. No. 5884. Insp. No. ——. "Dr. Taft's Asthmalene." Remedy for asthma and hay fever. Specific gravity, 1.225. Qualitative examination shows presence of chloride, iodide, ammonium, potassium, sugar, and an alkaloid. Contains potassium iodide, 6.29 per cent; ammonium chloride, 7.575 per cent.

Lab. No. 5909. Insp. No. 20427. "Cold Tablets." Warble Dimond & Son, Smith Center. Contained aloes, camphor, free salicylic acid, salt of salicylic acid, quinine, and capsicum.

Lab. No. 5918. Insp. No. 20436. "Tousley's Sneezeless Snuff." Sample was essentially boric acid (90 per cent). Traces of quinine, morphine and carbolic acid present.

Lab. No. 5953. Insp. No. 20462. "Pepto-Nux." Leverick's Drug Company, Kansas City. Two sets of tablets; one set of large and one set of small tablets. Large tablets show no noticeable digestion toward albumen. One tablet digests about .8 gm. of starch, equivalent to .032 gm. U. S. P. pancreatin. Small tablets contained starch, strychnine, and calcium sulphate.

Lab. No. 5966. Insp. No. 20477. "Hobson's Eczema Ointment." J. E. Reeder, Kansas City. Contained pine tar, zinc oxide, and vaseline. Small amount of zinc present combined with organic acid. Sample contained 8.63 per cent of zinc oxide.

Lab. No. 5967. Insp. No. 20478. "Tablets of Sodium Succinate, 5 gr." Contained 4.71 grains sodium succinate per tablet.

Lab. No. 5971. Insp. No. 20482. "Acetyl Salicylic Acid, 5 gr. Tablets." Tablets contained 4.44 grains.

Lab. No. 5988. Insp. No. 20500. "Bay Rum and Quinine Hair Tonic." J. E. Kautz, Rosedale. Contained 4.4 per cent alcohol. Contained borax 1.026 gms. and quinine .0596 gm. per hundred cubic centimeters.

Lab. No. 6046. Insp. No. 20535. "Royale Peroxide Cream." Salina. Preparation contained about 70.4 per cent water. Preparation was a perfumed sodium stearate soap. Small amount of zinc present, presumably as the peroxide.

Lab. No. 6059. Insp. No. 20552. "Hoffman's Red Drops." Erbert Drug Co., Ellis. Used for the treatment of cholera

morbus, cholera, dysentery, diarrhea, colic, cramps, and pains in stomach and bowels. Declared to contain 50 per cent alcohol. Contained peppermint and oil of cinnamon. Negative test for alkaloids. Contains 3.2 cc. oil per 100 cc.

Lab. No. 6080. Insp. No. 6793 "Pain Oil." E. J. Covert, Phillipsburg. An alcoholic solution of methyl salicylate, together with a small amount of volatile oil of mustard. Sample too small for complete analysis.

Lab. No. 6082. Insp. No. 6795. "Liniment." E. J. Covert, Phillipsburg. Declared 46 per cent alcohol. Capsicum, small amount of oil of sassafras and some methyl salicylate detected. Negative test for alkaloids; negative test for cantharidin.

Lab. No. 6085. Insp. No. 6798. "Mentholated Cough Syrup." E. J. Covert, Phillipsburg. Alcohol and chloroform declared. Morphine, codeine and acetanilid not detected.

Lab. No. 6114. Insp. No. 20590. "Anti Nicotine." J. M. Boys, Wamego. Contained .788 gm. silver nitrate per 100 cc.

Lab. No. 6115. Insp. No. 20591. "Marvelo." J. M. Boys, Wamego. Preparation is advertised as a depilatory. Contained starch, 53.1 per cent; barium sulphide, 2.3 per cent; barium sulphite, 21.9 per cent; barium sulphate, 2.0 per cent.

Lab. No. 6124. Insp. No. —. "Cora's Little Gems." J. L. Lincoke & Co., Adel, Iowa. Sample consists of brown tablets weighing 1.336 gms. Contained moisture, 8.66 per cent; ash, 6.25 per cent; sodium, corn starch, wheat starch, crystals of fat, phosphate, and evidence of presence of cacao were detected. Preparation was evidently a combination of sodium phosphate and cacao, with starch base. Cora's Little Gems are recommended by the manufacturer as a flesh reducer.

Lab. No. 6130. Insp. No. 20601½. "Autotoxine." C. W. Straffon, Lawrence. Found to contain magnesium sulphate 51.4 gms. and dextrose 8.9 gms. per 100 cc. Saccharin was present. Preparation was a light-yellowish liquid, flavored with cinnamon.

Lab. No. 61381½. Insp. No. —. "Red Lion Catarrh Cure." Root-Tea-Na-Herb Co., Akron, Ohio. Sample contained sugar, 34.6 per cent; camphor, 17.44 per cent; salt, 29 per cent; red ochre, 2.83 per cent; volatile matter at 110° C., moisture, etc., less per cent of camphor, 16.05 per cent.

Lab. No. 61401½. Insp. No. —. "White Solid." Found to be an impure alum. Contained Al_2O_3 , 17.34 per cent; Fe_2O_3 , .9 per cent; SO_3 , 39.06 per cent; H_2O , 42.7 per cent.

Lab. No. 6145. Insp. No. ——. Sample labeled "Eskay's Food"; thought to have produced acute gastritis. Sample contained large per cent arrow-root starch. Trichomes and masses of starch present suggested presence of oat flour. Sample did not respond to test for heavy metals.

Lab. No. 6086. Insp. No. 20560. "Aromatic Spirit of Ammonia." Walters & Behrens, Atchison. Contained 1.65 per cent ammonia and 11.25 cc. oil per liter. Sample had specific gravity, .9054. Refractive index of oils, 1.4720.

Lab. No. 6158. Insp. No. 20671. "Powdered Buchu." Bixby & Potter, Republic. Ash, 7.2 per cent. Microscopical examination showed presence of no foreign substances. Passed.

Lab. No. 6161. Insp. No. 20679. "Tincture of Opium." Shawnee Drug Company, Topeka. Contained 0.601 gm. morphine in 100 cc. Below standard.

Lab. No. 6171. Insp. No. 20687. "Concentrated Fowler's Solution." Bacon Drug Company, Holton. Formula for preparing U. S. P. Fowler's solution, 1 pt. to 7 pts. water; 98 per cent standard.

Lab. No. 6179. Insp. No. 20700. "Elixir of Pepsin." Fred G. Beaulieu, Sabetha. Below standard.

BEVERAGES.

Lab. No.	Insp. No.	COMPANY.	Brand.	Per cent alcohol.
6077	80887	K. G. Brewers Co.....	Puritan *	.33
6146		Distilled by Clarke Merc. Co.....	Ideal Temp. Beer.....	.85
6147		U. S. Beverage Co.....	Extra Pale.....	1.55

* Declared by manufacturer to promote temperance.

TALCUM POWDERS.

Lab. No.	Insp. No.	NAME AND CITY.	Brand.	Per ct. talc.	Per ct. MgCo ₃	Per ct. calcium carbon'te	Remarks.
5951	20460	Miller Drug Co., Junction City.....	A. D. S.....	75.3	9.64	Neg..	Trace of salicylic acid, Al. Fe. Zn.
6136	20610	Marshall Drug Store, Clay Center.....	Allen's Borated.....	92.6	4.57	.67	Borax and traces of Zn, Al. Fe.
6140	20615	Woolworth & Co., Topeka.....	Nadona.....	76.5	11.58	10.80	Trace of Al.
6141	20616	Woolworth & Co., Topeka.....	Japan Corylopsis.....	33.1	29.95	34.40	Trace Al, Fe, and Zn.
6142	20617	Woolworth & Co., Topeka.....	Royale.....	26.6	29.65	32.92	Trace Al and Fe.
6143	20618	C. A. Keaster, Topeka.....	Eureka.....	62.8	30.25	.65	2.12% Fe ₂ O ₃ , 1.67% Al ₂ O ₃ .
6144	20619	C. A. Keaster, Topeka.....	Toketa.....	69.8	15.12	14.09	Trace of Zn, Fe, Al.

Lab. No. 6199. Insp. No. 20722. "Comp. Digestive Elixir." Dr. W. L. Wilmoth, Denison. Below standard.

Lab. No. 6203. Insp. No. 20726. "Essence of Pepsin." Warner Drug Company, Carbondale. Passed.

Lab. No. 6148. Insp. No. 35 D. "Two tablets and small bottle of liquid." Tablets contained corn starch, wheat starch, and bicarbonate of soda. Liquid was paregoric.

Lab. No. 6148½. Insp. No. ——. "Mother Gray's Aromatic Leaf." Preparation by Allan S. Olmsted, LeRoy, N. Y. Declared to be an herb tea for diseases of the kidneys, bladder, stomach, and liver. Sample left at door. Preparation was evidently crude drug sweepings. Calamus, coriander, licorice, senna, anise and gravel detected.

Lab. No. 6170. Insp. No. 5080. "Capsules." Contained sodium bicarbonate, stearic acid, and alum.

Lab. No. 6173. Insp. No. 20689. "Ingersoll's Catarrh Cure." Sample contained volatile matter below 110° (menthol and H₂O), 12.6 per cent; loss on ignition (CO₂), 10.9 per cent; residue (MgO), 76.5 per cent. Sample was essentially magnesium carbonate with small amount volatile matter, principally menthol.

Lab. No. 6187. Insp. No. ——. "Consumption Cure." Preparation combined with X-ray treatment claimed by physicians to be cure for consumption. The liquid alone cost over \$17 per bottle. Sample was found to be a saturated solution of sodium chlorate and small amount of yellow coloring matter.

Lab. No. 6192. Insp. No. 20714. "Acetphenetidin Tablets." Dr. H. Randles, Wichita. Declared to contain 5 grains acetphenetidin. Tablets weighed .3818 gm. and contained 81.18 per cent acephenetidin, or 4.782 grains per tablet.

Lab. No. 6206. Insp. No. ——. "Blackberry Jam Sandwich." Thought to have had poison added. Calomel in considerable quantity was detected.

Lab. No. 6208. Insp. No. 5182. "Tablets and Pills." White tablets weighed 3.73 grs., contained quinine bisulphate, starch and small amount mineral matter (talcum). Pills were of Blaud's formula and contained ⅔ gr. of FeCos. Brown tablet showed evidence of containing ergotin.

LINSEED OIL.*

Lab. No.	Insp. No.	NAME AND CITY.	Sp gr.	Sapon. value.	Iodine value.	Drying test, hours.	Refractive index.	Remarks.
6065	20648	L. D. Myerly Hardware Co.,† Ws Keeney....	.887	167.87	64.2	.....	1.4770	(Boiled.) Adulterated. Sample has greenish fluorescence.
6066	20671	Ward Jones Lumber Co., Highland.....	.929	194.11	.....	72	1.4894	Passed.
6099	20675	Shumway Hardware Co., Frankfort.....	.884	104.79	53.9	72	1.4670	Adulterated. Just received from American Linseed Oil Co., Omaha.
6125	20686	A. R. Strowig Implement Co., Paxico.....	.886	103.11	107.6	.....	1.4710	Forms soft, opaque coat, characteristic of mineral oil. (Adulterated.)
6136	20697	G. W. Gray, Meriden.....	.941	192.80	.....	20	1.4880	(Boiled.) Passed.
6189	20651	J. M. Vincent & Son, Clay Center.....	.887	192.70	.....	20	1.4889	(Boiled.) Passed.
6165	20647	Marshall & Son, Clay Center.....	.880	189.90	.....	72	1.4810	Passed.
6166	20648	Held Book and Drug Store, Clay Center.....	.884	196.78	.....	72	1.4814	Passed.
6167	20649	J. L. Hoover, Clay Center.....	.881	194.11	.....	72	1.4810	Passed.
6178	20698	F. U. Turner, Sabatha.....	.887	188.81	.....	20	1.4842	Passed.
6197	20720	Sieben & Davis Hardware Co., Winchester....	.918	128.48	.....	.....	1.4814	Forms soft, opaque coat on glass. Adulterated.
6198	20721	M. N. Everett & Sons, Winchester.....	.988	194.11	.....	20	1.4825	Passed.
6209	.....	C. E. Gilby, To els.....	.912	160.06	.....	.....	.....	(Boiled.) Sent to laboratory by C. E. Gilby. Below standard.
6309†	.....	Wherrett-Mize Archison.....	.887	194.11	.....	20	1.4840	(Boiled.) Spencer Kellogg oil. Standard.

* Should conform to standard published in BULLETIN No. 6, 1912.

† From Central Linseed Oil Co., Omaha, Neb.

FOOD ANALYSIS XLVIII.

E. H. S. BAILEY, Director; W. S. LONG, Chief; AGNES ANDERSON, Analyst;
W. V. CULLISON, Assistant.

NOVEMBER 26, 1913.

BEVERAGES.

Insp. No. 20706. Passed.

Insp. No. 70274. Label, "Extra Pale." Distributer, the U. S. Beverage Co., Kansas City, Mo. Retailer, O. J. Wayland, Greensburg, Kan. Alcohol by volume, 1.19 per cent; alcohol by weight, .95 per cent.

Insp. No. 70275. Label, "Extra Pale." Distributed by the U. S. Beverage Co., Kansas City, Mo. Retailer, O. J. Wymer and R. J. Atwood, Greensburg, Kan. Alcohol by volume, 2.04 per cent; alcohol by weight, 1.62 per cent.

Insp. No. 90330. Label, "Compromise Temperance Beer. Drink the Famous Non-Intoxicating Temperance Beverage." Manufacturer, Al. Voiland Co., Kansas City, Mo. Retailer, A. B. Snyder, Hutchinson, Kan. Alcohol by volume, 4.49 per cent; alcohol by weight, 3.59 per cent. Misbranded.

Insp. No. 90331. Label, "Compromise Temperance Beer." Manufacturer, A. L. Voiland Co., Kansas City, Mo. Retailer, A. B. Snyder, Hutchinson, Kan. Alcohol, 4.15 per cent. Misbranded.

Insp. No. 90332. "Compromise Temperance Beer." Passed.

Insp. No. 90333. "Compromise." Passed.

Insp. No. 90343. Unlabeled; invoiced "Bohemian Hops." Manufacturer, Clarke Mercantile Co., Kansas City, Mo. Retailer, A. Byland, Dodge City, Kan. Alcohol, 5.37 per cent.

Insp. No. 90344. Unlabeled. Beverage handed to A. E. Ice, food inspector, by Mayor Bell, Dodge City, to be tested for alcohol along with No. 90343. Alcohol by volume, 2.20 per cent.

FRUIT AND SUGAR BUTTERS.

Insp. No. 6787. Apple Butter. Passed.

Insp. No. 6788. Apple Butter. Passed.

Insp. No. 70217. Confection Butter. Passed.

Insp. No. 90223. "Peach Butter." Manufacturer, Parkhurst-Davis Mercantile Co., Topeka, Kan. Retailer, J. A. Alberg, Scranton, Kan. Tin, 450 mg. per kilo.

Insp. No. 90334. "Peach Butter, Victorex Brand." Manufacturer, the Davis Mercantile Co., Topeka, Kan. Retailer, E. A. Richards, Lyons, Kan. Tin, 365.2 mg. per kilo.

CANDY.

Insp. No. 20531. Chocolate Colored Beauties. Passed.

Insp. No. 20620. Label, "Mulford Mints." Manufacturer, H. K. Mulford Co., Chemists, Philadelphia, Pa. Retailer, Matt Weightman, jr., Topeka, Kan. Talc, 6.01 per cent. Manufacturer claims these "mints" not now made with "talc."

Insp. No. 20282. Burnt Peanut. Passed.

Insp. No. 20284. Cocoanut Fudge. Passed.

Insp. No. 20530. Cocoanut Cream Almonds. Passed.

Insp. No. 5606. Candy. Passed.

Insp. No. 5622. Cryst. A. B. Cuts. Passed.

Insp. No. 70228. Chocolate Covered Strawberry Bar. Passed.

Insp. No. 90197. Licorice Cogs. Poor grade of licorice. Passed.

CATSUP.

Insp. No. 6778. Tomato Catsup. Passed.

CHERRIES.

Insp. No. 7989. Passed.

Insp. No. 70175. Passed.

Insp. No. 70198. Label, "Selected Fruit Couteaux Brand Maraschino Cherries." Liquid capacity 6 oz. SO₂ present 0.008 per cent. Distributer, Reid, Murdoch & Co., Chicago. Retailer, John J. Intfen, Atchison, Kan. Not maraschino cherries. Illegal. Distributer claims these goods relabeled, and new stock properly labeled.

Insp. No. 70199. Label, "Marasquin Cherries. Artificially colored. Purity of colors used guaranteed by the manufacturer. Part of Lot No. 543." Distributed by Sprague, Warner & Co., Chicago, Ill. Retailer, John J. Intfen, Atchison, Kan. Not maraschino cherries. Illegal. Distributer claims these goods relabeled, and new good properly labeled.

Insp. No. 70200. Label, "Couteaux Brand Maraschino Cherries." Distributers, Reid, Murdoch & Co., Chicago. Retailer, John J. Intfen, Atchison, Kan. Not maraschino cherries. Illegal. Distributer claims these goods relabeled, and new stock properly labeled.

Insp. No. 70219. Label, "Liberty Maraschino Cherries. Contains harmless pure food color." Manufacturer, The Beetman, Johnson Co., Cincinnati, O. Retailer, F. G. Hamman, Sabetha, Kan. Not maraschino cherries. Illegal.

(Continued in January Bulletin.)

GOOD HEALTH.

The food of the fields and the wine of the air—
A feeding quite fit for a king;
A walk o'er the hills and a plunge in the pool,
And the song that the strong men sing.

A day full of work and a night full of sleep,
And a heart full of wholesome desire;
A drink at the spring and a peep at the sky
Where the day has just kindled her fire.

A turn in the woods, where the sunshine and
shade
Distill the sweet odors of pine;
A romp with the kids and a chat among friends,
And a better than riches is mine!

—*Exchange.*

BULLETIN

OF THE

Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

S. J. CRUMBINE, M. D., Editor.

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JANUARY, 1914.

Vol. X.

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Read the BULLETIN, or don't complain if you are "stung."

Read the new regulations on reporting communicable diseases.

Defective sanitation is another name for defective civilization.—
Sedgwick.

Lantern slides on public health topics will be loaned to any physician of Kansas to give a free public lecture.

We must acquire constitutional vigor, resistance to disease and endurance in our youth, as it is rarely acquired in adult life.

Smallpox is prevalent in a number of cities of the state. You can secure absolute immunity at but small cost and little pain by vaccination.

"Taking the prevalence of typhoid fever as an index, we Americans are seven times as dirty as the Germans and ten times dirtier than the Swiss."

So far as the records of this department show, there has never been a death from smallpox in this state where there was evidence of a successful vaccination. Rather significant.

The hospital of the School of Medicine of the University of Kansas, at Rosedale, will give medical and surgical treatment to the indigent poor of the state. Inquiries promptly answered.

There are still a few so-called "doctors" in this state who declare that "a fly blister on the arm is a good vaccination," and a few people who believe them, despite the fact that the general level of intelligence is above the average in Kansas.

NOTICE.—We have added to our list of stereoptican slides a set on diseases of the eye, which will be loaned to any physician to give lectures.

MORBIDITY STATISTICS

Reported to the State Board of Health for December, 1913.

CONTAGIOUS AND INFECTIOUS DISEASES.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.
State, totals, 1913.....	151	9	112	6	109	5	88	0	49	1
October, 1912.....	90	10	112	8	128	2	183	0	66	1
Allen.....	2	0	3	0	0	0	2	0	0	0
Anderson.....	0	0	0	0	0	0	0	0	0	0
Atchison.....	0	0	0	0	2	0	0	0	0	0
Barber.....	0	0	0	0	0	0	0	0	0	0
Barton.....	0	0	1	0	2	0	6	0	0	0
Bourbon.....	1	0	0	0	0	0	0	0	0	0
Brown.....	1	0	0	0	0	0	0	0	0	0
Butler.....	1	0	5	0	0	0	2	0	0	0
Chase.....	0	0	0	0	0	0	4	0	0	0
Chautauqua.....	0	0	0	0	0	0	0	0	0	0
Cherokee.....	2	0	11	2	0	0	0	0	3	0
Cheyenne.....	0	0	0	0	0	0	0	0	0	0
Clark.....	0	0	0	0	0	0	0	0	0	0
Clay.....	0	0	0	0	0	0	0	0	0	0
Cloud.....	0	0	0	0	0	0	0	0	0	0
Coffey.....	0	0	0	0	0	0	0	0	0	0
Comanche.....	0	0	0	0	1	0	0	0	0	0
Cowley.....	0	0	4	1	0	0	0	0	0	0
Crawford.....	7	2	5	1	2	0	3	0	2	1
Decatur.....	0	0	0	0	0	0	0	0	0	0
Dickinson.....	0	0	0	0	0	0	0	0	0	0
Doniphan.....	1	0	0	0	0	0	2	0	0	0
Douglas.....	3	1	1	0	1	0	0	0	0	0
Edwards.....	0	0	0	0	3	0	0	0	0	0
Ellis.....	3	0	1	0	5	0	0	0	0	0
Ellisworth.....	0	0	0	0	0	0	0	0	0	0
Finnery.....	0	0	0	0	0	0	0	0	0	0
Ford.....	0	0	1	0	0	0	1	0	0	0
Franklin.....	1	0	3	1	2	0	0	0	0	0
Geary.....	0	0	0	0	0	0	4	0	0	0
Gove.....	0	0	0	0	0	0	0	0	0	0
Graham.....	0	0	0	0	0	0	0	0	0	0
Grant.....	0	0	0	0	0	0	0	0	0	0
Gray.....	0	0	0	0	0	0	0	0	0	0
Greeley.....	0	0	0	0	1	0	0	0	0	0
Greenwood.....	4	0	0	0	4	0	0	0	0	0
Hamilton.....	0	0	0	0	0	0	0	0	0	0
Harper.....	0	0	0	0	0	0	1	0	0	0
Harvey.....	2	0	1	0	0	0	0	0	1	0
Haskell.....	0	0	0	0	0	0	0	0	0	0
Hodgeman.....	0	0	0	0	0	0	0	0	0	0
Jackson.....	0	0	0	0	4	0	0	0	0	0
Jefferson.....	0	0	2	0	0	0	0	0	0	0
*Jewell.....										
*Johnson.....										
Kearny.....	0	0	0	0	0	0	0	0	0	0
Kingman.....	0	0	2	0	0	0	0	0	0	0
Kiowa.....	0	0	0	0	0	0	0	0	0	0
Labette.....	0	0	1	0	1	0	0	0	0	0
Lane.....	0	0	0	0	0	0	0	0	0	0
Leavenworth.....	1	0	10	1	0	0	0	0	0	0
Lincoln.....	0	0	0	0	0	0	0	0	0	0
Linn.....	0	0	0	0	0	0	0	0	0	0
*Logan.....										
Lyon.....	1	0	1	0	1	0	0	0	2	0
Marion.....	4	1	0	0	7	1	0	0	4	0
Marshall.....	0	0	2	1	7	0	0	0	0	0
McPherson.....	0	0	0	0	4	0	0	0	0	0
Meade.....	1	0	0	0	0	0	0	0	0	0

*No report from health officer.

CONTAGIOUS AND INFECTIOUS DISEASES—Continued.

COUNTIES.	Typhoid fever.		Diphtheria.		Scarlet fever.		Small-pox.		Measles.	
	Cases...	Deaths..	Cases...	Deaths..	Cases...	Deaths..	Cases...	Deaths..	Cases...	Deaths..
Miami.....	1	0	1	0	0	0	0	0	0	0
Mitchell.....	1	0	4	0	0	0	0	0	0	0
Montgomery...	2	0	0	0	2	0	0	0	0	0
Morris.....	3	0	2	0	0	0	0	0	0	0
Morton.....	0	0	0	0	0	0	0	0	0	0
Nemaha.....	0	0	0	0	1	0	0	0	0	0
Nemah.....	2	1	1	0	1	0	1	0	0	0
Ness.....	0	0	0	0	9	0	0	0	0	0
Ness.....	1	0	0	0	0	0	0	0	0	0
Norton.....	2	0	12	0	0	0	0	0	0	0
Osage.....	3	2	0	0	4	0	0	0	0	0
Osborne.....										
*Ottawa.....										
Pawnee.....	1	0	0	0	0	0	0	0	0	0
Phillips.....	0	0	0	0	0	0	0	0	0	0
Pottawatomie...	0	0	0	0	0	0	0	0	16	1
Pratt.....	0	0	1	0	0	0	0	0	0	0
Rawlins.....	0	0	0	0	0	0	0	0	0	0
Reino.....	0	0	0	0	2	0	1	0	0	0
Republic.....	2	0	0	0	0	0	0	0	0	0
Rice.....	1	0	0	0	0	0	0	0	0	0
Riley.....	0	0	1	0	1	0	0	0	1	0
Reksa.....	0	0	0	0	0	0	0	0	0	0
Rush.....	0	0	0	0	0	0	0	0	0	0
Russell.....	0	0	1	0	0	0	0	0	0	0
Saline.....	1	0	12	0	0	0	0	0	1	0
*Scott.....										
Sedgewick.....	0	0	0	0	0	0	0	0	0	0
Seward.....	2	0	0	0	0	0	11	0	0	0
Shawnee.....	2	0	0	0	6	0	1	0	0	0
Sheridan.....	5	0	0	0	0	0	0	0	0	0
Sherman.....	0	0	0	0	0	0	21	0	0	0
Smith.....	0	0	0	0	0	0	5	0	0	0
Stafford.....	0	0	0	0	1	0	0	0	0	0
†Stanton.....										
Stevens.....	0	0	0	0	0	0	0	0	0	0
Sumner.....	2	0	0	0	0	0	1	0	14	0
Thomas.....	0	0	0	0	0	0	1	0	0	0
Trego.....	0	0	0	0	0	0	0	0	0	0
Wabaua.....	0	0	0	0	2	0	1	0	0	0
Wallace.....	0	0	0	0	0	0	0	0	0	0
Washington.....	0	0	0	0	0	0	0	0	1	0
Wichita.....	0	0	0	0	0	0	0	0	1	0
Wilson.....	7	2	0	0	0	0	1	0	0	0
Woodson.....	0	0	0	0	0	0	0	0	0	0
Wyandotte.....	0	0	0	0	0	0	1	0	0	0
Cities:										
Atchison.....	1	0	0	0	5	0	0	0	0	0
Coffeyville.....	1	0	2	0	0	0	1	0	4	0
Fort Scott.....	2	1	1	0	0	0	0	0	1	0
Hutchinson.....	0	0	0	0	1	0	10	0	0	0
*Independence.....										
Kansas City.....	10	0	9	0	18	0	42	0	1	0
*Lawrence.....										
Leavenworth.....	0	0	4	0	2	0	0	0	0	0
Parsons.....	0	0	0	0	9	0	2	0	0	0
Pittsburg.....	1	0	2	1	2	0	0	0	0	0
Topeka.....	0	0	2	0	2	0	0	0	0	0
Wichita.....	0	0	1	0	4	1	2	0	0	0

† No health officer.

* No report from county health officer.

ATTENTION, PHYSICIANS AND HEALTH OFFICERS.

New Morbidity Reports Regulation.

What would you think of a fire department which exacted fire alarms after the buildings were burned down? Mighty worthless system, eh? Well, our present system of monthly collection of morbidity reports of contagious diseases is about as worthless. Conflagrations of contagious disease and fires are alike—the first thing is to get the “alarm,” the next to extinguish them.

Morbidity reports are like biscuits—they are best when hot. Delayed reports are ancient history, and are of mighty little use in stamping out an epidemic. Every epidemic has its starting point from some delayed report, or unrecognized case, and consequently preventive measures can not be instituted.

Read carefully the following new Morbidity Report Regulation which has been adopted by the Kansas State Board of Health. It's a departure, but a most desirable one. It is the model law adopted by the Association of State and Provincial Boards of Health and the United States Public Health Service.

Every effort has been made to simplify the work of the physician, the local health officer and the State Department. The old contagious disease report is contracted to a post card, takes but a minute to fill out and gives all information necessary.

The list of reportable diseases has been increased, but on scanning it you will note every one is communicable and should be reported. Some may occur infrequently or never, *but should they occur*—well they are reportable.

The system of reporting venereal disease has not been fully perfected, but will appear in next month's BULLETIN. Those who doubt the wisdom of attempting the collecting of these reports will remember that only twenty-five years ago the profession scoffed and rebelled against the reporting of tuberculosis. The start must be made in any movement, and if in a quarter of a century we can give this one the impetus which the anti-tuberculosis cause has acquired, we shall never regret our start. We solicit your coöpe-

ration to make it as nearly a success as it can be made and as early as possible.

The regulation follows:

REGULATION.

In accordance with chapter 285, Session Laws of 1901, and sections 8074 to 8084, inclusive, General Statutes of 1909, and also by authority vested in the State Board of Health by section 8030, General Statutes of 1909:

Be it resolved, By the State Board of Health of Kansas, that the following be and is hereby adopted as a part of the rules and regulations of said Board:

SECTION 1. The following-named diseases and disabilities are hereby made notifiable, and the occurrence of cases shall be reported as herein provided:

GROUP I.—*Infectious Diseases.*

Actinomycosis.

Anthrax.

Chicken pox.

Cholera, Asiatic (also cholera nostras when Asiatic cholera is present or its importation threatened).

Dengue.

Diphtheria.

Dysentery:

(a) Amebic.

(b) Bacillary.

Favus.

German measles.

Glanders.

Hookworm disease.

Leprosy.

Malaria.

Measles.

Meningitis:

(a) Epidemic cerebrospinal.

(b) Tuberculosis.

Mumps.

Ophthalmia Neonatorum (conjunctivitis of newborn infants.)

Paragonimiasis.

Paratyphoid fever.

Plague.

Pneumonia (acute lobar).

Poliomyelitis (acute infectious).

Rabies.

Rocky mountain spotted or tick fever.

Scarlet fever.

Septic sore throat.

GROUP I—*continued.*

Smallpox.
Tetanus.
Trachoma.
Trichinosis.
Tuberculosis (all forms; the organ or part affected in each case to be specified.)
Typhoid fever.
Typhus fever.
Whooping cough.
Yellow fever.

GROUP II.—*Occupational Diseases and Injuries.*

Arsenic poisoning.
Brass poisoning.
Carbon monoxide poisoning.
Lead poisoning.
Mercury poisoning.
Natural gas poisoning.
Phosphorus poisoning.
Wood alcohol poisoning.
Naphtha poisoning.
Bisulphide of carbon poisoning.
Dinitrobenzine poisoning.
Caisson disease (compressed-air illness.)
Any other disease or disability contracted as a result of the nature of the person's employment.

GROUP III.—*Venereal Diseases.*

Gonococcus infection.
Syphilis.

GROUP IV.—*Diseases of Unknown Origin.*

Pellagra.
Cancer.

SEC. 2. Hereafter each and every physician practicing in the State of Kansas who treats or examines any person suffering from or afflicted with, or suspected to be suffering from or afflicted with, any one of the notifiable diseases shall immediately report such case of notifiable disease in writing to the local health authority having jurisdiction. Said report shall be forwarded either by mail or by special messenger and shall give the following information:

1. The date when the report is made.
2. The name of the disease or suspected disease.
3. The name, age, sex, color, nativity, occupation, address, and school attended or place of employment of patient.
4. Number of adults and of children in the household.

5. Source or probable source of infection or the origin or probable origin of the disease.

6. Name and address of the reporting physician.

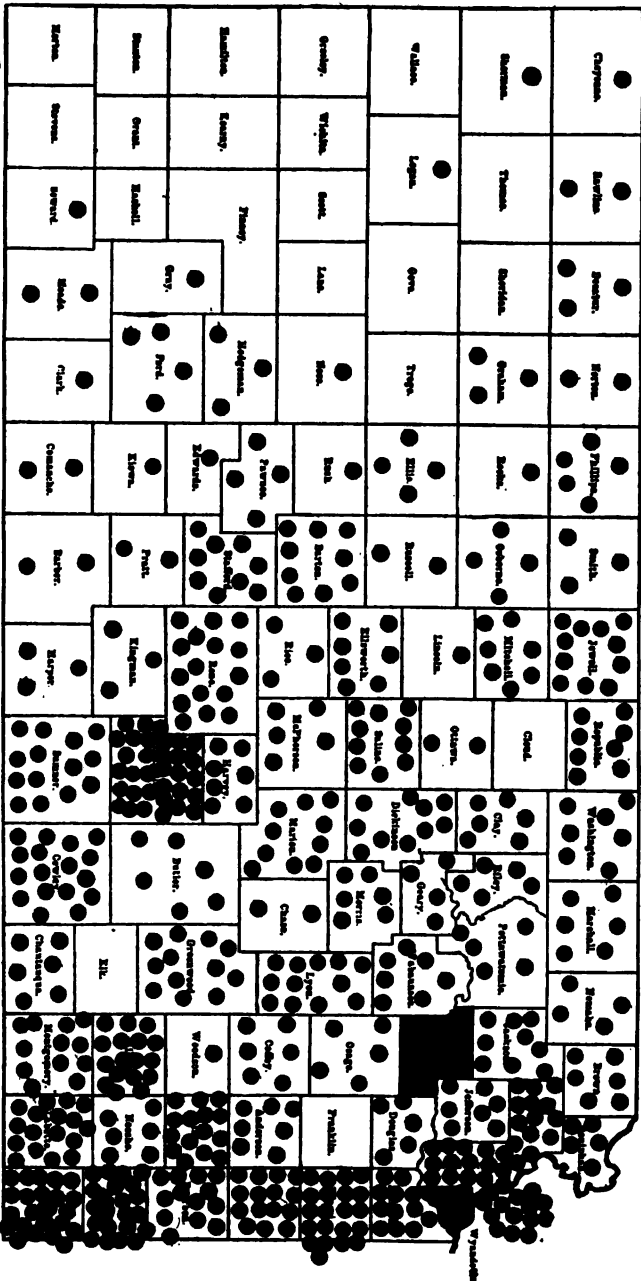
Provided, that if the disease is, or is suspected to be, smallpox, the report shall, in addition, show whether the disease is of the mild or virulent type and whether the patient has ever been successfully vaccinated, and if the patient has been successfully vaccinated, the number of times and dates or approximate dates of such vaccination; and if the disease is, or is suspected to be, cholera, diphtheria, plague, scarlet fever, smallpox, or yellow fever, the physician shall, in addition to the written report, give immediate notice of the case to the local health authority in the most expeditious manner available; and if the disease is, or is suspected to be, typhoid fever, scarlet fever, diphtheria, or septic sore throat, the report shall also show whether the patient has been, or any member of the household in which the patient resides is, engaged or employed in the handling of milk for sale or preliminary to sale; and provided further, that in the reports of cases of the venereal diseases the name and address of the patient need not be given, and that all such reports of venereal disease shall be made direct to the State Board of Health on special blank.

SEC. 3. The requirements of the preceding section shall be applicable to physicians attending patients ill with any of the notifiable diseases in hospitals, asylums, or other institutions, public or private, provided that the superintendent or other person in charge of any such hospital, asylum, or other institution in which the sick are cared for, may, with the written consent of the local health officer (or board of health) having jurisdiction, report in the place of the attending physician or physicians the cases of notifiable diseases and disabilities occurring in or admitted to said hospital, asylum, or other institution in the same manner as that prescribed for physicians.

SEC. 4. Whenever a person is known or is suspected to be afflicted with a notifiable disease, or whenever the eyes of an infant under two weeks of age become reddened, inflamed or swollen, or contain an unnatural discharge, and no physician is in attendance, an immediate report of the existence of the case shall be made to the local health officer by the midwife, nurse, attendant, householder or other person in charge of the patient.

SEC. 5. Teachers or other persons employed in, or in charge of, public or private schools, including Sunday schools, should report

PNEUMONIA, (Broncho pneumonia not included) KANSAS



Map showing distribution of deaths during 1913.
Shawnee County 69, Wyandotte County 108

Pellagra. Brief Comments on Our Present Knowledge of the Disease.

By C. H. LAVINDER, Surgeon, United States Public Health Service.

The literature of pellagra continues to increase in volume, but our actual knowledge of the nature of the disease still leaves much, very much, to be desired. The etiology of pellagra remains in obscurity. The Italian school continues to ring changes on the corn theory, while the American school seems largely inclined to regard pellagra as an infectious disease of some undetermined nature. A review, however, of the proceedings of the last Italian Congress on Pellagra and of the last meeting of the American Association for the Study of Pellagra, along with other recent literature, leaves one in the end about as wise as in the beginning. There have been two or three reports of the successful production of pellagra in the lower animals, especially in the monkey, but these all await confirmation, and at present may be accepted with very much doubt. Taking all things into consideration, at present the safest point of view with regard to the causation of this disease is probably one of frank agnosticism, backed up by a healthy spirit of criticism and investigation, with the suppression of all desire to rush into print with immature speculations, fantastic hypotheses, and incomplete experimentation. "Prove all things," said the apostle, "hold fast to that which is good"—a precept no less applicable to medicine than to morals.

Much good work has been done on the epidemiology of pellagra. Such work has added materially to our knowledge of the disease along certain lines, but so far no one has been found who can place upon these facts any interpretation which promises to lead us to a better comprehension of the real nature of pellagra. It is well to remember that this kind of investigation, while valuable, must ultimately be completed by experimental proof. It is worthy of remark that Sambon has shown, what was already suspected, that the disease is far more prevalent than has been heretofore stated. In striking confirmation of this fact he has reported recently the discovery of over fifty cases of the disease in the British Isles. In the United States, while accurate data are lacking, there is little doubt that pellagra continues to spread, and numerous cases are now found where the disease scarcely existed a year ago.

Needless to say, nothing of consequence has been added to our knowledge of the symptomatology of pellagra. It would seem still wise, however, to repeat a word of caution against hasty diagnoses

in doubtful cases; still more important, not to overlook frank cases of pellagra and call them "skin erysipelas," which, in spite of all that has been written or said, is still being done by some medical men.

Some more or less recent studies of the pathologic anatomy have appeared, but these students do not seem in entire accord among themselves, and so far this line of investigation has not materially aided in throwing light on the true nature of this malady.

It is no uncommon thing to hear doctors lament the difficulties surrounding the prognosis of pellagra. The chief disturbing point is, "When may one say the disease is cured and the patient finally recovered?" The answer to this question is just about as definite as the answer to such a question would be in tuberculosis of the lungs. A recovered pellagrin, under proper conditions, may remain in a good state of health indefinitely; but, like sufferers from tuberculosis, such a patient must always remember the possibility of a recurrence, and both he and his doctor should govern themselves accordingly. Pellagra in this respect does not differ from other diseases which might be mentioned, and there is therefore nothing mysterious about the matter.

The patient and doctor alike all seek some specific remedy for this, as well as other diseases. There is none for pellagra, and there is none for the vast majority of our diseases. Lacking a specific remedy, however, we have no need to throw up our hands in despair. There is no specific remedy for typhoid fever, for example, though there is a very logical treatment for this disease which, properly applied, gives good results. Likewise in pellagra there is no specific drug, but there is a treatment which gives good results, especially if applied in early cases. This treatment is largely summed up in the removal of the patient from his surroundings, if possible, and preferably to an institution, proper diet, properly regulated rest, hydrotherapy, and intelligent attention to general symptomatic treatment without too much drugs. Such treatment for pellagrins implies the use of institutions for this purpose, and we have none. We have at least partially met this difficulty in the treatment of tuberculosis, however, and pellagra may demand the same thing. The Italians have such places and report excellent results.

Arsenic enjoys the reputation of being very beneficial in this disease. It would seem, however, that a word of caution is necessary in the use of this remedy. I feel satisfied that many times arsenical preparations have been used in the treatment of pellagra

to the detriment of the patient, and I would counsel careful judgment in the administration of such a remedy in this disease. Especial caution is needed with regard to the employment of the so-called arsenical preparations, such as atoxyl and salvarsan. These remedies are potent both for good and ill, and to use them without careful deliberation is sometimes to invite disaster. Personally, I agree with the majority who have had experience, that salvarsan in pellagra is not only useless, but very often dangerous as well. To misuse a good thing and thus jeopardize its worth is an offense against common sense.

Ups and Downs of Public Hygiene.

An analysis of the legislation relating to two rather newly recognized dangers, the common drinking-cup and the roller towel, is given in a recent Public Health Bulletin (No. 57) of the United States Public Health Service. It seems that the public drinking-cup was looked upon as a serious danger in times of epidemic centuries ago.

Statements in the available literature make it appear that as early as 1564 during an epidemic in Strasburg individual communion cups were used at the suggestion of a professor of theology to prevent the propagation of disease through this medium. A similar statement is made by Martin for the city of Chiavenna, Italy. The records of the Protestant church at Bopfingen, Württemberg, show in the inventory of 1703 "one small gold-plated cup for the sick, one tin cup for infected persons." Similar tin cups were carried on the inventories as late as 1832. The danger of contracting various infections, especially syphilis, was emphasized during the eighteenth century by Metzgar Hufeland and other writers.

The question as to actual danger from the common drinking-cup centered at first, in this country at least, around the communion cup, but presently came to include all vessels used for public drinking. As to what we actually know about this danger it may be briefly stated that bacteriological examinations have shown the presence of diphtheria bacilli and pus-forming bacteria in the dregs of wine in communion cups, and on the edge of drinking-cups used in railways, schools and offices. It is probable that tubercle bacilli are also present, but they are far more difficult to demonstrate. The same is true of the infectious agent of syphilis.

Kansas was the first state to pass a regulation against the common drinking-cup, in 1909. Then Michigan and Mississippi followed. Massachusetts passed the first law to abolish the common drinking-cup in 1910, and at present there are twenty-six states and one territory which have either a law or regulation for this purpose. In addition many large cities have passed ordinances of their own.

The evidence against the common roller towel seems to be not as conclusive as that against drinking-cups, and apparently this source of infection has not caught the attention either of the public or of scientists as much as has the former. Nine states only have taken action against the public roller towel, and in some of these the restriction applies only to schools or to railroads.—*Survey.*

. Dirty People and Dirty Towns.

The reason we have so many dirty towns is because there are so many dirty people. Some towns stink, but in such the inhabitants stink first. No town is in itself bad; it is the people who are bad. The town is a mirror. It reflects the people. A man who is clean in mind will be clean in person; he will have a clean front yard and a clean back yard.

A littered dooryard and a dilapidated house reflect a littered and dilapidated mind.

If an overrunning outhouse borders the alley, it is because the instinct of decency and cleanliness is woefully absent in the owner or tenant, or both. The old proverb, "Cleanliness is next to godliness," was changed by Governor Thomas Marshall to "Cleanliness is essential to godliness." No cleanliness, then, of course, no godliness. A dirty town is an ungodly town.

Some towns, yes, many towns, have flies on them. They have flies on them because they are dirty. They are ungodly for that very reason.

A town may have several churches and many church-going people, but if it is dirty and stinks, it is ungodly. "By their works ye shall know them." Of course; how else can they be known? I sat on the porch of a house in a certain town one summer evening. It was hot and sultry. Every once in a while a gentle movement of the air would bear foul odors to my nose. It was the near-by outhouses I smelled. What kind of people are they who have such surroundings? Are they strong-minded and clean? Think of people so disposing of their sewage as to poison the air and also make it possible for flies to transport unspeakable filth to

their food. Why shouldn't such people have typhoid fever? They invite it, don't they? Surely, every man is the architect of his own misfortunes. Foul outhouses and flies spell typhoid. Why have them? The answer is simple. They who have them are not of a high order of mentality. They are weak in righteousness and impractical.

Shall the dirty be compelled by law to be clean? No, indeed; not unless their dirtiness threatens the health and comfort of others. The Scripture says: "He who is filthy let him be filthy still." Of course; what is the use to do otherwise? Compelling "he who is filthy" to be clean in person and premises will not make him clean in mind and soul. He'll be filthy still. We must teach cleanliness to the unclean. Then if they become clean and stay clean, it is because cleanliness is in their nature. If they stay dirty, it is because they are inherently dirty. Force won't change them. The reason we cannot make a silk purse out of a sow's ear is because it is a sow's ear. It is not silk. A naturally dirty man cannot be made into a clean man. It is because he is a dirty man. It is an iron law of nature that only those may be saved who can accomplish their own salvation. Dirty towns will exist just as long as dirty people exist. Dirty towns will disappear when clean people predominate. Slow town will always have flies on it.—
Bulletin Indiana State Board of Health.

Practical Value of Prevention of Disease.

The benefits and practical value to human health of modern preventive medicine have again been well illustrated in the army camps which have been established in 1911 and 1913, says *The Journal of the American Medical Association*. Certainly the success attending the efforts of army sanitarians at these camps, or "mushroom cities," holds much of promise to the people of both town and country. Such disasters as those connected with the camps during the Spanish War need no longer be feared, and the parents of the young volunteer of future wars may be assured that if he is spared the bullets of the enemy he will not fall a sacrifice to his patriotism through ignorance of how to keep well—that is, provided recently discovered methods of preventive medicine are put into effect, as has been the case in recent camps. A report of the health conditions in the camp of the Second Division near Galveston gives evidence of a sanitary competence that is farther removed from the insanitary camps of the Spanish War than were

the latter from those of the middle ages. The truth is, however, that men are prone to forget lessons learned through long experience if not living under conditions constantly enforcing them. The Mosaic sanitary rules are not new, but those who grow up with no thought of water supply or sewage disposal are usually helpless when thrown suddenly into a situation where these are not provided. Here the penalty of ignorance has been death. That the men in these camps were picked men and of good physique does not make less remarkable the lesson of preparation read in the results of protection from the epidemic of contagious diseases to which such a group of men is liable. The explanation of the results at Galveston, which include no typhoid or smallpox, and but eighteen cases of malaria among twelve thousand men in five months, in a country where these diseases are frequent, is merely the utilization of sanitary methods within the reach of any of our communities, large or small. Preventive medicine applied to a receptive and intelligent population would seem to be a profitable investment for any community, even looking at the matter solely from the dollars-and-cents point of view.

Maxims for Prolonging Active and Useful Life.

NOTE.—A maxim is useful because of its readiness of application. The mind has to reduce its conclusions to postulates before it can apply them to practice.

1. The commercial value of a life lies solely in its productive period; the other periods are a burden upon this.
2. This period should be prepared for from infancy, protected in adult life, and extend as long as possible into old age.
3. Constitutional vigor is created mainly by proper food and proper hygiene in youth.
4. No person over forty years of age should subsist mainly on animal foods, which are very good in early life. The reason for this is contained in maxim 14. The elasticity of some of the most important tissues in the body can not be preserved by a person over forty years of age who continuously loads up the body with the waste products of nitrogeneous foods in excess, even if he had the best food in youth. Fruits and cereal foods should be largely and generally used by all persons over forty years of age.
5. Nerves are exceedingly important. They grow best in the country. Let youth be passed as much as possible away from the crowded centers of population.

6. Education may be misdirected, and may be overdone. A good machine may be ruined by making it too elaborate. A good knife may be rendered useless by sharpening it all away.

7. Regular, moderate, physical exercise is essential, and is generally neglected.

8. Do not make a burden of amusements. They may, and often are, made worse than overwork or undue worry.

9. Do not set an impossible ideal of life. It results in disappointment, and that ages.

10. Cultivate a serene mental attitude, and develop a capacity for deliberate enjoyment of whatever is at hand. The greatest pleasure often comes from little things easily and often overlooked.

11. Avoid every excess. Do not overwork, overplay, overeat, overdrink, oversmoke, or allow yourself to become overinactive.

12. Do not assume obligations that you can not discharge. This is the secret, not only of much physical, but of much moral and mental disaster.

13. Study your diet, and your hours of labor, sleep, and relaxation, and conform to your constitutional requirements.

14. Take particular precaution to preserve by daily actions the elasticity of all the tissues.

15. Maintain self-respect, avoid sordidness and gloom, and "grow old gracefully."

16. It is desirable to diversify your interests. Have one or two restful diversions, using a portion of your time away from your regular occupation and habitation.— *Teachers' Sanitary Bulletin, Michigan State Board of Health.*

Quarantine and Individual Inconvenience.

It is neither the province nor the intention of the Department of Health to give an individual or the public the preference over the other in quarantine matters. This does not always seem so from the individual's point of view in cases of communicable diseases. While quarantine may, in some instances, result in personal inconvenience and often in hardships, yet the safety of the community must be the first consideration. The same measures which work an apparent hardship also serve as a protection. This is a well-established principle in public health administration and has been upheld by the courts. The convenience of the few must be subject to the safety of the many.— *Buffalo Sanitary Bull.*

Fourth Annual Summer School for Physicians and Health Officers.

The fourth annual summer school for physicians and health officers will be held in the college building of the School of Medicine of the University of Kansas at Rosedale, beginning at ten o'clock A. M., Monday, June 8, the course lasting the entire week.

The forenoon of each day will be devoted to clinics, held in the Bell Memorial Hospital, which adjoins the college building, the instruction being given by the attending staff of the hospital and teachers in the School of Medicine.

The afternoons will be devoted to lectures and laboratory work, mostly of a public health nature.

Some of the most noted sanitarians in the country have been secured as instructors in the school and the high personnel of the hospital staff assures a summer course for graduate physicians and health officers that will compare with any other like institution in the country. Indeed, there has never been offered anywhere, so far as is known, a combined course of this character.

Arrangements have been made, as hitherto, to give this course absolutely free to any licensed physician of the state.

The BULLETIN takes pleasure in announcing, also, that the next week following the summer school a regular postgraduate course will be offered by the faculty of the School of Medicine of the University of Kansas. The following hospitals will be utilized by the faculty in giving this first regular postgraduate course: Bell Memorial Hospital, Rosedale; St. Margaret's Hospital and Bethany Hospital, Kansas City, Kan., and the General City Hospital and Mercy Hospital, Kansas City, Mo.

A rich treat awaits the physicians of Kansas who take advantage of the unusual opportunity offered. A small fee will be charged for the postgraduate course.

On September 20, 1782, in Naples, by royal decree, it was ordered that any physician who failed to report a case of consumption should be fined 300 ducats for the first offense, and banishment for ten years for the second offense. The department moves that the Naples edict be enacted into law in Kansas. Do we hear a second?

The Open-air Treatment.

It sometimes happens that when popular explanation of a phenomenon is disproved the impression is produced that the occurrence of the phenomenon itself is denied. Something like this has taken place with reference to the recent work on the physiologic factors involved in room ventilation and the open-air treatment. There is reason to believe that the general public is still somewhat confused on this point. It was for a long time supposed that the bad effects of close and crowded rooms were due to chemical impurities in the air, to excess of carbon dioxide or to organic poison, or else to lack of oxygen. No one of these explanations is tenable in the light of recent experiment. On the contrary, all the ill effects observable in crowded rooms seem to depend in the stagnation, high temperature and moisture in the air; in a word, to those factors that disturb the normal heat regulation of the body. If the temperature and moisture are kept low, human exhalations may be allowed to accumulate without noticeable effect to a point far above that ordinarily observed in the most "badly ventilated" room. On the other hand, if the experimenter breathes "pure" outdoor air through a tube, but allows his body to be confined in a small chamber where temperature and moisture are at a high point, he will soon have all the symptoms commonly attributed to "breathing foul air."

To substitute this explanation, which is wholly in accord with recent experimentation, for the once-current theory that expired air has a toxic property is not to question the value of fresh air or to decry the open-air treatment for tuberculosis. On the contrary, we are now in a much better position to understand in what way cool air and especially moving air produces marked invigoration and improvement of the general health. When the body loses heat at a suitable rate, heat production must also proceed at a certain rate in order to compensate for the loss. This means improved assimilation of food, and a larger consumption of food means better supply of material to build up the body. The action of cool, moving air is probably in itself beneficial. Moreover, it impels to exercise, and increased activity increases nutrition.

On the other hand, exposure to the stagnant atmosphere of confined places allows the skin to become surrounded with an envelope of warm air which prevents the body from losing heat at a proper rate. The nerves of the skin are not stimulated. The circulation is depressed. Reluctance to exercise and to any bodily exertion

becomes marked. Expansion of the lungs and oxygenation of the blood are less frequent and thorough. Insufficient food is taken and much of the food eaten may decompose in the intestine and produce poisonous products.

Altogether there is still a sound physiologic foundation for the belief in the virtues of the outdoor life for the healthy as well as for the tuberculous person. In point of fact, says *The Journal of the American Medical Association*, nothing can discredit the rational open-air treatment, no matter what progress physiologists and hygienists may make in analyzing the mechanism on which this treatment rests.

Just Think of It.

A little boy once said to his schoolmates, "I don't make any more mistakes in my music." This little boy had such poor eyesight that he could not read letters three and one-half inches square more than six feet away from him, and yet he had been repeatedly punished by his violin teacher for making mistakes while taking his lessons. Just think of it; punished for making mistakes when he could not see his notes plainly!

How did he find out that his eyes were weak? His school-teacher had been making tests of the sight of her pupils and had discovered that this boy could not see well. She reported the fact to his parents, who got glasses that made him the happiest boy in the school, saved him many undeserved punishments, and caused him to say, "I don't make any more mistakes in my music."

This boy did not know, nor did his parents know, but that he saw as well as every other boy, and his mistakes were thought to be from carelessness and inattention.

This same boy afterwards became a noted violinist, was educated abroad and played before royalty. His glasses enabled him to see his notes plainly and he made no more mistakes in his reading music.

There have been thousands of just such boys and girls in our public schools in the past, who have been stumbling along, hating their lessons, scolded and punished by their teachers and parents, just because they had a defect of vision of which they and their parents and teacher were ignorant.

Parents, do you know that your children have good eyesight? Do you know that they are not "long-sighted," "near-sighted," or color-blind? Do they often complain of being tired, or of having

a headache when they return home from school? Do they dislike school? Are they sleepy and dull when trying to learn their home tasks? Is it hard for them to keep up with their class? Are they inclined to "play hookey"? Then do not punish and scold them, until you first find out if there is not some physical cause behind it all, so that you may not regret later and blame yourself for neglect or injustice to one of your own.

Ignorance of the law is no excuse to the lawbreaker in court. Ignorance is no excuse for neglect of your children. Fifty per cent of the blindness caused by separation of the retina (the sight-seeing membrane within the eye) occurs in people who are near-sighted. Many of the headaches of children and others are the result of eye-strain caused by the attempt of the delicate eye muscles to overcome the defect. This overtaking of them strains the eye muscles, then the letters blur or run together, the child feels tired and the eyes pain or headache follows.

Do not neglect your children's eyes!

What's the Matter with Kansas?

Others seem to worry far more about Kansas than Kansans themselves, and just as a little reassurance to solicitous friends it may be noted that according to the bank commissioner, the state and national banks of Kansas show deposits of \$213,000,000; a rather good-sized nest-egg stored away against the "hard times" many so much fear, but with which the average Kansan has scarcely a speaking acquaintance. The state's per capita wealth of \$1700 is \$500 in excess of the average for the whole country. Even though the year may fall far below the normal in corn yield, Kansas is still headquarters for General Prosperity. If any are feeling sorry for her I beg them to cheer up, and borrow trouble nearer home. They will do well to watch Kansas come up smiling for the next round.

The heart is not easily taken out of a state that has an average of \$600 in the banks and \$750 worth of live stock on the farms for every family; that has property with an assessed valuation surpassed only by that of New York, Pennsylvania and Massachusetts; that in twenty years has harvested wheat worth \$832,000,000, and grown corn having a value of \$1,082,000,000; that has 87 counties out of a total of 105 without any insane, 54 without any feeble-minded, 96 without any inebriates, 38 without any poorhouses, 53 without any prisoners in jail, 65 without any convicts in the state's prison, and dozens in which no jury has been called to try a criminal case in ten years.

There is no lifetime and no state to which seasons of disappointment do not come. If, as of others, this is true of Kansas, there still gleams back of it all the exalted optimism of sturdy, self-

reliant, hopeful, earnest men and women who have wrought from the wilderness a commonwealth along cleanly, helpful, worthy ways; a commonwealth in which the unhappily situated wheresoever may have homes; where right thinking is the habit, right believing is the fashion and right doing is the commonplace.—*Kansas Banker.*

Doctor Osler's Challenge to the Anti-vaccinationist.

"A great deal of literature has been distributed casting discredit upon the value of vaccination in the prevention of smallpox. I do not see how any one who has gone through epidemics as I have, or who is familiar with the history of the subject, and who has any capacity left for clear judgment, can doubt its value. Some months ago I was twitted by the editor of the *Journal of the Anti-vaccination League* for a 'curious silence' on this subject. I would like to issue a Mount Carmel-like challenge to any ten unvaccinated priests of Baal. I will go into the next severe epidemic with ten selected, vaccinated persons and ten selected unvaccinated persons—I should prefer to choose the latter—three members of parliament, three anti-vaccination doctors, if they could be found, and four anti-vaccination propagandists. And I will make this promise—neither to jeer nor jibe when they catch the disease, but to look after them as brothers, and for the four or five who are certain to die I will try to arrange the funerals with all the pomp and ceremony of an anti-vaccination demonstration." *American Magazine.*

Carelessness and Diphtheria.

The office of the Georgia state board of health at Atlanta was recently compelled to close by an epidemic of diphtheria among the officers and employees. Ten persons were affected. Only the secretary and one other physician escaped the disease. The secretary of the board is reported to have said that the disease was contracted from specimens which were so carelessly prepared by the physicians who sent them in that no indication was given of what the packages contained. Ordinary envelopes, it is said, were sent in containing portions of membrane placed between pieces of card board or paper; other envelopes contained cotton swabs which fell out when the package was opened. Even if this were not a violation of the postal laws, it is almost inconceivable, says *The Journal of the American Medical Association*, that physicians could be so careless as to send in this manner material as deadly as dynamite or an infernal machine. It not only constituted a danger to the persons in the office of the health board, as the sequel proved, but it also was a menace to every one handling the mail *en route*. The responsibility of physicians in handling such material is great and the utmost precaution should be observed.

NURSING A GRIEVANCE.

Look out for the man who goes around with a grievance in his being; if ever you see him come your way, it is time for you to be fleeing; for of all the boobs that afflict mankind with prayers for help and healings, the worst is the fellow who always needs a balm for his battered feelings. Somebody pierces his soul each day with daggers or darts or sabers; he starts right out with his tale of woe to worry his poor neighbors; it makes me writhe and it makes me groan whenever I see him coming; I'd rather dwell on a desert isle than list to his dismal humming. Give me a life on the ocean wave or a crust in some dark cellar; I'll dodge that guy if I have to steal on board of an air propeller; for the man with a grievance on his mind is a bore to friends or nation; he gets my boot when he comes around, but none of my consolation. The great world goes on its restless way, unchecked by the things that fret us; the more we utter loud laments, the more it tries to forget us; for little it cares for our petty griefs, and little it heeds our crosses; but it likes us best when we keep the lid on our own daily losses.

BULLETIN

OF THE

Kansas State Board of Health.

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S. J. CRUMBINE, M. D., Editor.

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VOL. X.

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O, the joy of the springtime.

Do your spring cleaning early.

The hibernating season is over. Come out!

Look out for the superheated house in springtime.

In the health of the people lies the strength of a nation.

Fourth Annual Summer School, June 8 to 13.—Come early!

Rapid changes in the weather call for rapid changes in clothing.

A "swat" in early spring saves many times "nine" in summer.

Which emphasizes the necessity of physical supervision of school children.

Read the vital statistics of Kansas for 1912 and 1913 in this number of the Bulletin.

Trachoma is on the increase in many of the schools of Kansas, as well as in other states.

The Kansas Congress of Mothers and Parent-Teachers Association are asking for a division of child hygiene to be added to the activities of the State Board of Health.

Deaths from tuberculosis in Kansas have been less each year for the past four years, which shows the wisdom of the legislature of 1909 in providing for a state-wide educational antituberculosis campaign.

Observations Regarding the Relative Nutritive Value of Pasteurized and Raw Milk.

Under the above title, a brochure has been issued by Ivan Comings Weld, of Washington, D. C., in which studies were made of the gain in weight of a large number of babies supplied with milk by the Baby Milk Stations supported and conducted by Mr. George M. Oyster, jr., of Washington. His feeding experiments were conducted with three groups of babies, all under the expert supervision of physicians and trained nurses. Whole milk and modified milk were used, part of the babies being fed on pasteurized milk and part of them on raw milk. The feeding experiments continued between April 24, 1911, and October 17, 1913. There were 351 babies fed entirely on raw milk. The average net gain per day per baby thus fed upon raw milk was found to be 0.4030 ounce; of the 557 babies fed upon pasteurized milk exclusively the average net gain per day per baby was found to be 0.4077 ounce; the average difference in favor of pasteurized milk amounting to 0.0047 of an ounce per day per baby. There were 110 babies fed a portion of the time upon raw milk, and the remainder of the time upon pasteurized milk, these babies being under the direct supervision of the same physicians and nurses. The average net gain per day per baby for the 110 while fed upon raw milk was 0.4312 ounce, and the average net gain per day per baby for the same 110 babies when fed upon pasteurized milk was 0.4607 ounce, equal to an average difference in favor of pasteurized milk of 0.0295 of an ounce per day per baby.

Weld then concludes as follows:

CONCLUSIONS.

1. The slightly greater rate of gain in weight made by babies when given pasteurized milk may possibly be attributed to the destruction of certain possible disturbing elements which, if present in milk not perfectly pasteurized, may tend to retard digestion or prevent the fullest possible assimilation of the milk.

2. The actual difference in rate of increase in weight of the babies would seem to be convincing evidence that *proper* pasteurization does not impair the digestibility of milk or cause any possible injury to the nutritive properties of milk that can be detected even when used for infant feeding.

3. The decidedly greater rate of increase in weight of the 110 babies when fed on pasteurized milk, over the rate of increase of the same babies when fed on raw milk, would seem to be corroborative and conclusive evidence that no possible injury to the nutritive properties of milk actually takes place as a result of modern *scientific* pasteurization and that even the best supplies of raw milk may, at times, be improved by such a process.

To the State Board of Health:

GENTLEMEN—I have the honor to submit herewith the First Biennial Report of the Central Division of Vital Statistics, covering the years 1912 and 1913.

Respectfully,

WILLIAM J. V. DEACON,
State Registrar.

REPORT OF VITAL STATISTICS, 1912-1913.

The legislature of 1911 passed the first effective vital statistics legislation which has been enacted in Kansas. This bill was in most respects similar to the "Model Law" which was prepared by a committee of the American Medical Association, the American Public Health Association, and the United States Bureau of Census, and was recommended by all three of these organizations.

The bill as prepared and introduced at the request of this department was identical in its essential features with the said "Model Law," but it was amended in the legislature in the provision for the appointment of registrars, by providing that the city clerk of each incorporated city should be the local registrar for his city and such additional territory adjacent thereto as might be assigned by the State Board of Health. This bill became a law on July 1, 1911, but owing to some delay in securing the necessary blanks, etc., from the state printer, it was August 9 before the registrars could be supplied and the law put in operation.

With the attempt to enforce the provisions of the law it became immediately apparent that the provision for local registrars was not adequate. In seventeen counties of the state, some of them quite populous, there was but one registrar in the county, and in five of the counties in the extreme southwest there was no "de jure" registrar as there was not an incorporated city in the county. This difficulty was overcome to a certain extent by the appointment of subregistrars.

With the advent of the legislature of 1913 the department asked for an amendment to the law providing that where necessary the justice of the peace or other suitable person might be appointed in those townships in which there was no incorporated city. This amendment, however, failed of passage, but another bill had been introduced providing that in all cases where there was no incorporated city in the township the township clerk should be the local registrar, thereby making it mandatory for him to perform these duties. The amendment adopted reads as follows:

"The city clerk of any incorporated city shall be the local registrar of vital statistics of such city and of the township in which such city is located; the township clerk shall be the local registrar of such township wherein no incorporated city is located, and they shall issue burial permits and receive birth certificates for their respective districts."

While this amendment was effective to the extent of increasing the number of registrars, it is unfortunate that it should have been so enacted, as it has resulted in a great deal of confusion owing to the fact that physicians having births to report are frequently uncertain as to what registrar they should be sent, many of our physicians practicing in three or four counties and sometimes fifteen or twenty townships; this is particularly true where they happen to be located near the corner of four counties. This has resulted in much confusion, and as a result the birth reports for 1913 were far less satisfactory than in 1912.

The death reports were largely increased during 1913, but not more so than the increased population would seem to warrant. As a whole, it may be said that the law is effective, and properly administered will give the positive results which is the real purpose of this legislation. Experience of several hundred years abroad and for many years in this country has taught that the only means by which it is possible to secure all reports of deaths is by the provision requiring a burial permit before any disposition can be made of the body of a decedent, and the issuing of said burial permit contingent upon the filing of a proper report of death.

This First Biennial Report of the Vital Statistics of Kansas is the first authentic publication of deaths that has ever been made in this state, and many features thereof indicate that conditions are gratifying, but also indicate many conditions that need correction. It is only by a careful and comprehensive study of the reports of deaths and the cases of disease that we are enabled to intelligently ask for those preventive measures which are necessary to the welfare of the people and to ask for appropriations consistent with the demands.

Whatever may be attempted in the way of the prevention of disease, and the amelioration of such suffering and misery as is caused by disease, must be looked at from the standpoint not only of the health and comfort of the people, but from the standpoint of the economic value to the community in the reduction of the loss of life and its attendant losses by depriving the community of the economic value of the labor of its citizens who may be cut off in the prime of life.

POPULATION.

The question of population is a somewhat difficult one in this state owing to the fact that in some localities the population fluctuates sharply because of the industrial conditions, such as the supply of gas or coal, and also the conditions of drouth, etc. On account

of this fluctuation it was considered best in the year 1912 to use the United States census of 1910 as the basis for the calculation of all 1912 rates, as this population was somewhat in excess of the state enumeration for 1912. For 1913 the state enumeration of 1913 was taken as the basis for figuring all rates, this being considered possibly better than to take the arithmetical increase from the census figures. However, for the convenience of those who may desire to use this basis of calculation, we submit herewith a list of the population by counties as estimated by the United States census on an arithmetical basis.

KANSAS.

Estimated Population, July 1, 1913.

Counties.		Counties.	
Aggregate.....	1,762,578	Leavenworth, excluding.....	22,877
Cities.....	335,857	Leavenworth.....	18,517
Rural.....	1,426,716	Lincoln.....	10,234
Allen.....	30,232	Linn.....	14,101
Anderson.....	13,735	Logan.....	4,973
Atchison, excluding.....	11,362	Lyon.....	24,530
Atchison city.....	18,586	McPherson.....	21,553
Barber.....	10,995	Marion.....	22,380
Barton.....	19,205	Marshall.....	22,736
Bourbon, excluding.....	13,272	Meade.....	6,132
Fort Scott.....	10,508	Miami.....	19,507
Brown.....	20,974	Mitchell.....	13,309
Butler.....	22,963	Montgomery, excluding.....	25,323
Chase.....	7,296	Coffeyville.....	15,199
Chautauqua.....	11,309	Independence.....	12,691
Cherokee.....	36,691	Morris.....	12,535
Cheyenne.....	4,770	Morton.....	1,697
Clark.....	4,877	Nemaha.....	15,643
Clay.....	15,064	Neosho.....	25,214
Cloud.....	18,492	Ness.....	6,319
Coffey.....	14,741	Norton.....	11,707
Comanche.....	3,821	Osage.....	15,696
Cowley.....	32,820	Osborne.....	13,145
Crawford, excluding.....	33,826	Ottawa.....	12,012
Pittsburg.....	16,370	Pawnee.....	10,035
Decatur.....	3,894	Phillips.....	14,067
Dickinson.....	25,158	Pottawatomie.....	17,214
Doniphan.....	14,211	Pratt.....	12,473
Douglas, excluding.....	11,741	Rawlins.....	6,749
Lawrence.....	12,865	Reno, excluding.....	22,087
Edwards.....	8,122	Hutchinson.....	18,633
Elk.....	9,702	Republic.....	17,187
Ellis.....	13,322	Rice.....	15,222
Ellsworth.....	10,709	Riley.....	16,413
Finney.....	3,026	Rooks.....	12,390
Ford.....	13,309	Rush.....	3,375
Franklin.....	20,734	Russell.....	11,551
Geary.....	13,311	Saline.....	21,397
Gove.....	7,215	Scott.....	3,679
Graham.....	9,346	Sedgwick, excluding.....	20,437
Grant.....	1,303	Wichita.....	62,097
Gray.....	3,725	Seward.....	5,153
Greeley.....	1,609	Shawnee, excluding.....	18,231
Greenwood.....	16,018	Topeka.....	46,290
Hamilton.....	3,968	Sheridan.....	6,245
Harper.....	16,190	Sherman.....	4,940
Harvey.....	19,724	Smith.....	15,064
Haskell.....	1,167	Stafford.....	13,390
Hodgeman.....	3,223	Stanton.....	1,232
Jackson.....	16,779	Stevens.....	3,047
Jefferson.....	15,272	Sumner.....	32,234
Jewell.....	17,738	Thomas.....	5,391
Johnson.....	18,346	Trego.....	6,267
Kearny.....	3,886	Wabaunsee.....	12,692
Kingman.....	14,269	Wallace.....	3,272
Kiowa.....	7,409	Washington.....	19,667
Labette, excluding.....	18,716	Wichita.....	2,269
Parsons.....	14,016	Wilson.....	21,170
Lane.....	2,940	Woodson.....	9,264
		Wyandotte, excluding.....	17,101
		Kansas City.....	91,697

DEATHS.

The total number of deaths reported for the year 1912 was 17,183, which makes a crude death rate for the state of 10.16 per one hundred thousand; in 1913 the total number of deaths reported was 17,861, a crude death rate of 10.6 per one hundred thousand.

From the two maps which follow, fig. 1 and fig. 2, will be noted the distribution of death rates by counties in a somewhat more comparable form than from the tables which recite all of the details thereof.

KANSAS

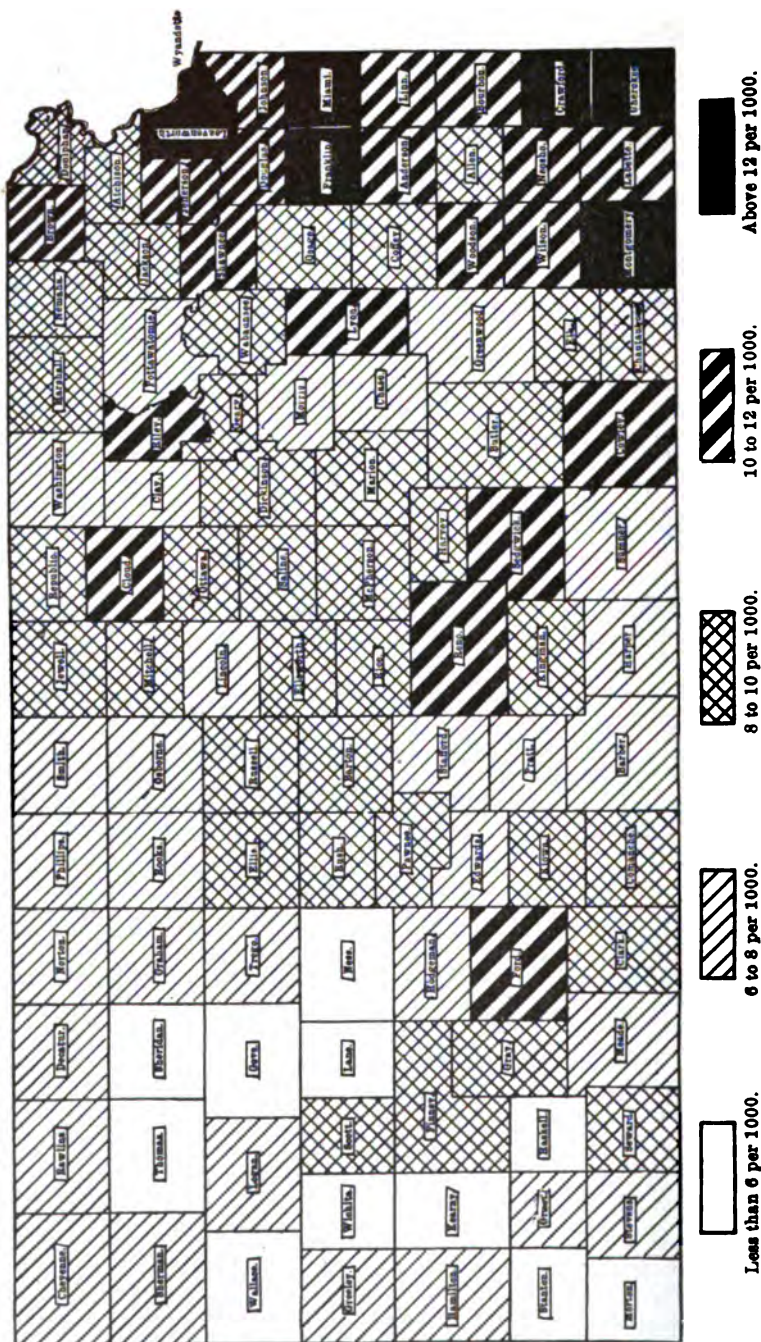


FIG. 1.—DEATH RATES BY COUNTIES, 1912.

SEX.

The ratio between the number of deaths of males and females seems to be more or less constant. In 1912, 55.3 per cent of the deaths were males, 44.7 females; in 1913, 54.3 were males and 45.7 were females. This is not far different from the ratio as shown in the registration area of the United States in 1912, the percentage of males being 54.6 and females 45.4.

The births in 1912 show the percentage of males to be 51.1 and of females 48.9; in 1913, males 51.0, and females 49.0, which would indicate that in Kansas, as elsewhere, the expectation of life of females is somewhat greater than in males.

COLOR.

The high mortality rate for the colored population, which in Kansas is largely negro, can not be ignored in any statistical calculation, on account of the extremely higher rate in some instances. The United States census of 1910 showed that 3.2 per cent of the population of the state was negro. This small percentage of the population furnished, in 1912, 7.0 per cent, and in 1913, 6.8 per cent of the total number of deaths. This is peculiarly notable in some diseases. For instance, in 1912, from typhoid fever, 10.1 per cent of the deaths were negroes; from whooping cough about 10 per cent, and from tuberculosis of the lungs 11.8 per cent. In 1912 the specific death rate from tuberculosis (all forms) of the white population was 58 per one hundred thousand, and of the negro 257 per hundred thousand.

In the matter of births, it is quite evident that we are not securing reports of all of the births which probably occur in the negro population. In 1912 but 2.1 per cent of the total births were negroes, and in 1913 2.5 per cent.

NATIVITY.

While much stress is usually laid upon the question of nativity, there does not seem to be available any comprehensive studies of diseases in regard to the nativity of the decedent. In Kansas it seems to be a fact that nativity is very important, particularly in those diseases which are usually considered degenerative. A somewhat comprehensive study of this subject reveals the necessity, however, of exceedingly careful analysis, and the question of foreign nativity should, in my opinion, be considered more exactly as to race.

A phenomenon which has been carefully observed in this department since the enactment of the vital statistics law is that an un-

due per cent of the deaths in certain diseases is furnished by those of foreign nativity. The federal census of 1910 showed that 8 per cent of the population of Kansas was foreign born. The following list will furnish some interesting figures in this connection:

PERCENTAGE OF FOREIGN BORN IN THE DEATHS FROM
CERTAIN DISEASES.

	1912	1913
Diabetes	20.7	15.8
Cerebral hemorrhage	16.7	20.3
Organic heart disease	17.6	18.5
Bright's disease	17.7	19.2
Pneumonia	11.3	10.7
Typhoid fever ..	9.0	13.2
Diseases of the liver	22.0	20.0
Total death rate	15.7	16.5

Percentage of foreign born in the state, 8 per cent.

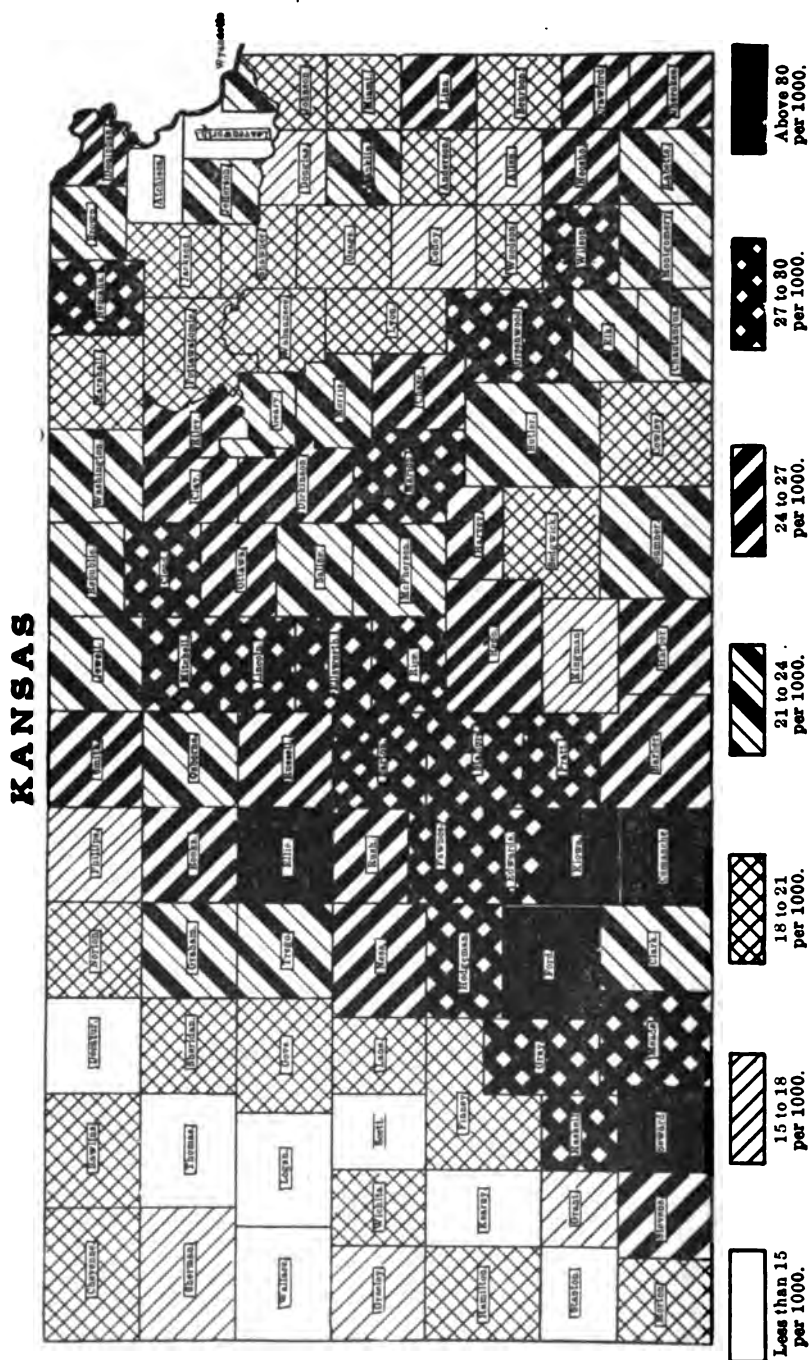
It will be observed that the above list of diseases, with the exception of pneumonia and typhoid fever, are diseases of the degenerative type, and that the percentage of deaths of foreigners in this group varies from two to two and one-half times greater than the percentage of foreigners within the state with the exception of these two diseases. A somewhat intensive study in this connection among the statistics of other states did not demonstrate this to be the rule; however, in this study was considered largely the New England states where the percentage of immigration for the last score of years has been largely from northern Europe, whereas in Kansas in the last decade the immigration has been largely from southern Europe. It is the intention of the department to make a much more comprehensive study of this subject within the next year.

STILLBIRTHS.

Stillbirths are not included in the tables which follow, either as births or as deaths; these are enumerated separately from either. In 1912 there were reported to this office 1047 stillbirths; in 1913 there were 1020.

BIRTHS.

During the year 1912 there were reported to this office 38,005 births, which makes a total crude birth rate of 22.47 per thousand population. In 1913 the number of births reported was 35,383, a total crude birth rate of 20.98 per thousand population. These figures in detail for each county will be found in the tables which follow. The decided loss in registration for the year 1913 can only be accounted for by the change in registration districts previously referred to, but it is hoped that by vigorous effort within the next



KANSAS

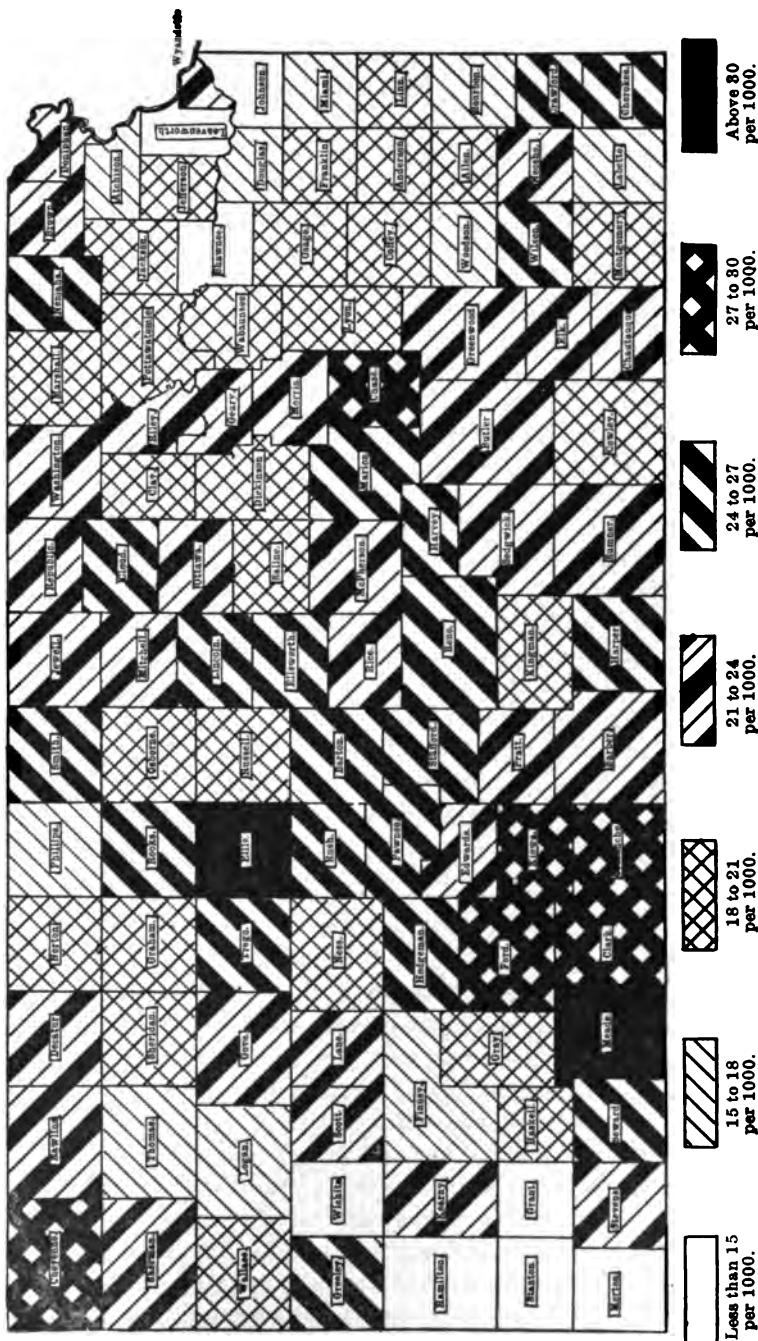


FIG. 4.—BIRTH RATES BY COUNTIES, 1913.

year this will be largely overcome; it is gratifying to note that within the last few months there has been a marked improvement in this condition. Because of the fact that there is no birth registration area in the United States, it is very difficult to determine what a proper birth rate should be. It is very evident, however, that the birth rate in Kansas should be much higher than shown above. It is probable that when all births are properly reported the rate will show at least 20 per cent higher than that indicated above.

The two maps, figures 3 and 4, pages 60, 61, show the distribution of birth rates by counties.

INFANT MORTALITY.

Kansas is to be congratulated in the fact that the infant mortality, namely, the percentage of deaths of infants under one year of age, to the number born during the year, is somewhat lower than generally reported. The rate for the year 1912 was 7.4 per cent, the highest rate being in Wyandotte county, 12.7 per cent, Scott county, 12.5 per cent, and Montgomery county, 12.2 per cent. For 1913 the rate is unfortunately some higher for the state, being 8.8 per cent. This increased rate, however, is undoubtedly due to the decreased number of births reported and probably can not be attributed to any real increase in the rate.

The two maps which follow will give a very fair idea of the distribution of the infant mortality rate throughout the state, and attention is invited particularly to those counties where the rate is shown to be exceptionally high. The detailed figures for each county will be found in the tables following the report.

TYPHOID FEVER.

It is gratifying to note a slight decrease in the specific death rate from typhoid fever between 1912 and 1913, the rate for 1912 being 20.4 per one hundred thousand, and in 1913, 19.4 per one hundred thousand. This rate, however, is somewhat higher than the rate in the registration area of the United States, which was 16.5 per one hundred thousand for 1912. There seems to be no question, however, that the typhoid fever death rates are showing a marked decrease from year to year, and sanitarians now look forward confidently to the time when the loss, both of life and money, due to this preventable disease will become insignificant. This decrease is general throughout the country, not only in those cities where improvement has been made in the quality of the public water supply, but in other cities as well, and in the rural districts.

Professor Sedgwick attributes the exceedingly high death rate from typhoid fever in the United States to our Civil War, and considers that the decrease in this disease is due to the dying out of many of the typhoid carriers who were created during the Civil War, thereby reducing the number of individual foci of the disease. To this, of course, must be added the general improvement in sanitary conditions throughout the state, the "Swat the Fly" campaigns which have been vigorously carried out during the past few years, and to a better education of the people. Many prominent authorities consider that the increased use of the Typhobacterins will eventually aid in the stamping out of this disease.

The two spot maps which follow, figs. 7 and 8, will show the distribution of deaths from typhoid fever for each of the years 1912 and 1913, but it must be borne in mind that no description of the death rate from typhoid fever adequately describes the economic loss to the community. The lowest mortality rate given and considered is 10 per cent, consequently the 350 deaths from typhoid, approximately, in each of these years represents not less than 3500 cases. It is rarely that a case of typhoid fever will permit its victim to return to his accustomed duties under two months, and this definite economic loss must be considered in addition to the weeks of anxiety, the loss of employment, the increased expense of sickness, and the loss to the community of the valuable young life, for it will be observed that the highest frequency and the highest mortality of typhoid fever is at the period of young adult life.

And the fact that there are 3500 or more such cases in Kansas every year from a preventable disease is a matter well worthy of consideration of our legislature.

SMALLPOX.

In common with the United States as a whole, the state has suffered but slightly from smallpox. There have been several small epidemics of the mild type of the disease in various parts of the state within the past few years, the number of deaths being small; in 1912 there were three deaths, making a rate of 0.2 per 100,000; in 1913 there were four deaths, making a rate of 0.23 per 100,000. This as against the rate 0.3 for the registration area of the United States.

MEASLES.

In this disease, likewise, the state has much reason for congratulation, the year 1912 showing a rate of 3.5 per one hundred thousand and in 1913, 5.9, as against a rate of 7.0 per one hundred thousand for the registration area of the United States.

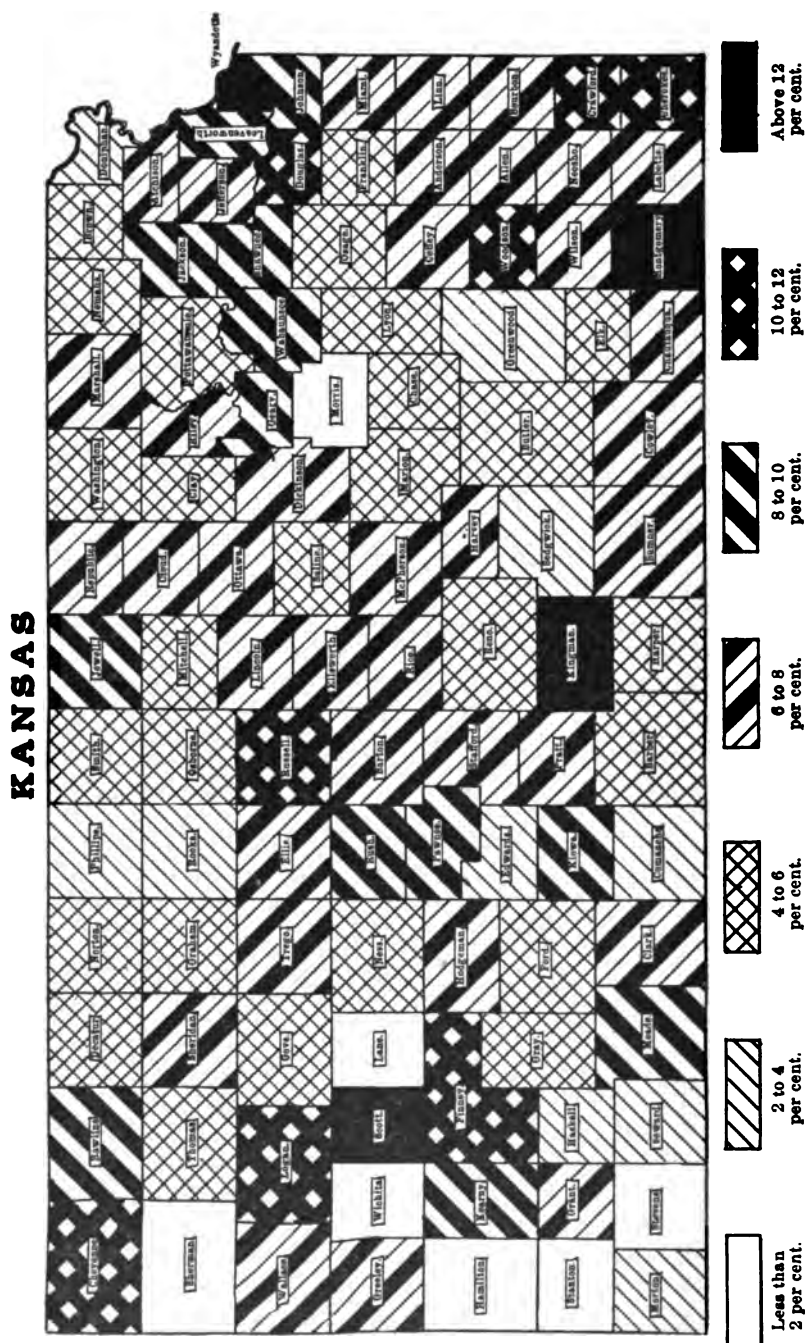


FIG. 5.—INFANT MORTALITY BY COUNTIES, 1912.

KANSAS

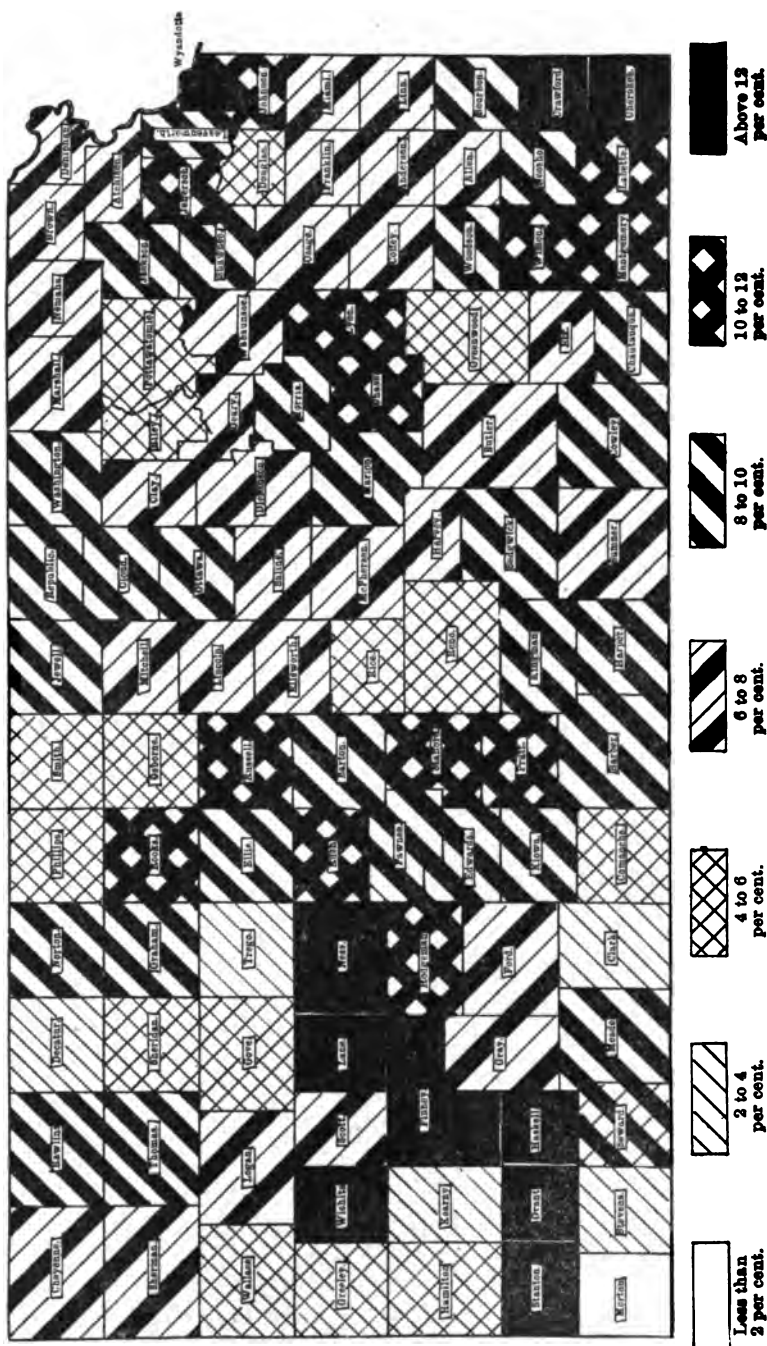
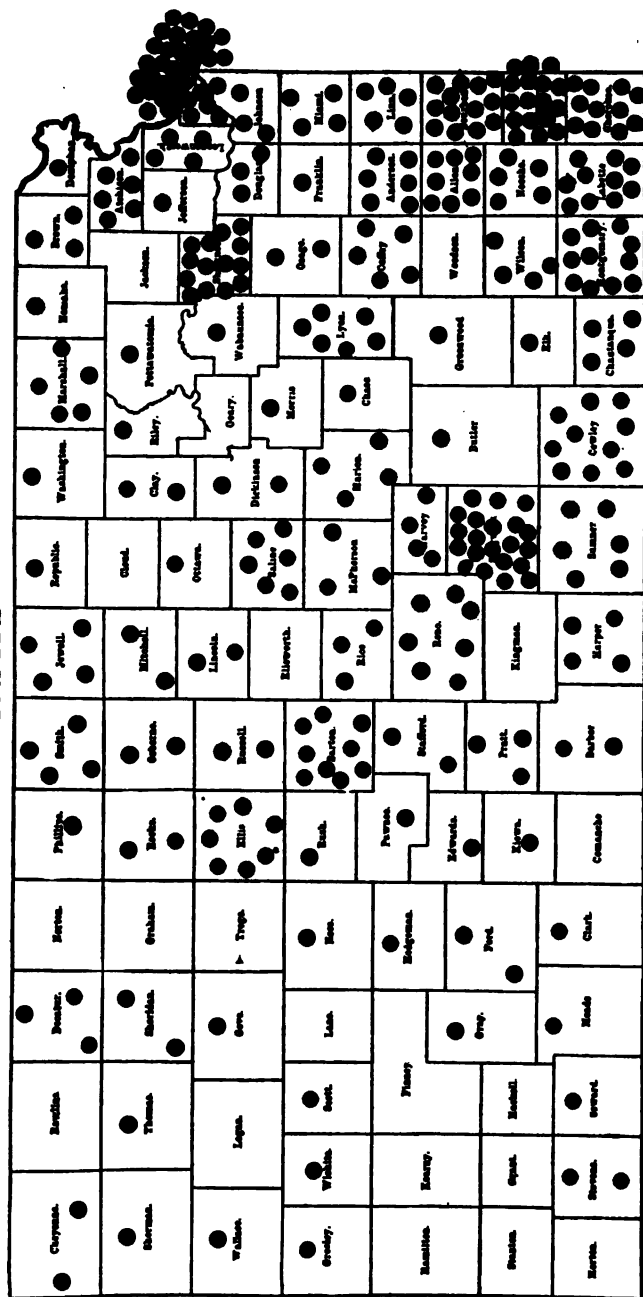


FIG. 6.—INFANT MORTALITY BY COUNTIES, 1913.

TYPHOID FEVER KANSAS

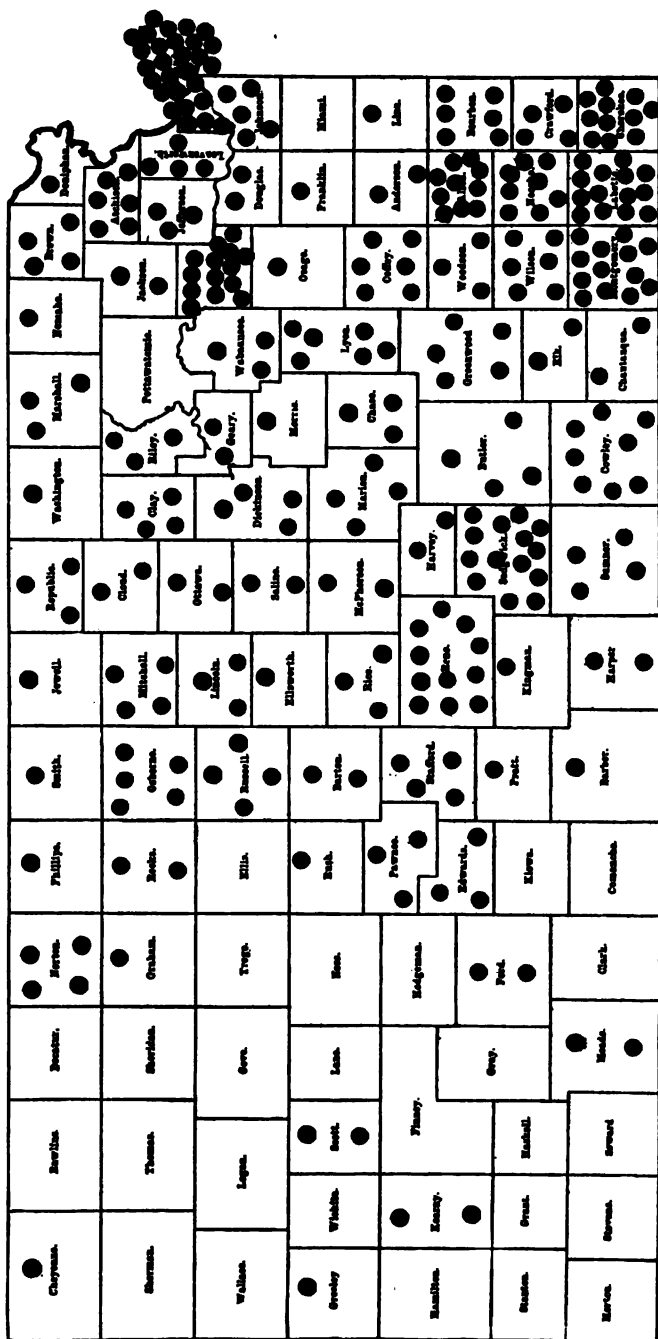


Map showing distribution of deaths 1912.

FIG. 7.

TYPHOID FEVER

KANSAS



Map showing distribution of deaths 1913

FIG. 8.

SCARLET FEVER.

This disease has been epidemic in several parts of the state within the past few years, largely, however, in the milder forms. The rate for 1912 was 3.5 and for 1913 it was 3.0 per one hundred thousand, as against a rate of 6.7 for the registration area of the United States. It must not be understood, however, that this comparatively low death rate by any means indicates the loss from this disease. Greater loss comes from scarlet fever in the form of its sequela, and because of the possible lesions of the kidney or heart or ears. Much greater effort should be made to stamp out the disease. Parents so frequently think that as soon as the rash of scarlet fever has disappeared the child is well, and the insidious growth of organic maladies is not observed in sufficient time to prevent very grave consequences in many cases. It would be interesting indeed if we were able to study the disease history of many of the degenerative diseases occurring in adult life and ascertain how many had their beginning in a case of scarlet fever.

WHOOPIING COUGH.

One of the very grave mistakes of parents is in the thought that whooping cough is an insignificant disease of childhood, and but little effort is made to prevent children from getting this disease. It will, therefore, be surprising to many to notice that in the year 1912 the highest death rate of any of the group of infectious diseases of early childhood was from whooping cough, namely, 9.2 per one hundred thousand, which rate, however, was fortunately decreased in 1913 to 6.9; whereas in the registration area it was 9.3 for 1912.

DIPHTHERIA.

It is to be regretted that Kansas has no really worth-while statistics on diphtheria prior to the arrangement for free antitoxin for the indigent citizens of the state, which arrangement was made by the State Board of Health in 1910. The rate for 1912 was 7.2 per one hundred thousand, and in 1913 it was 7.8. This as contrasted to a rate of 18.2 for the registration area of the United States.

PELLAGRA.

Sanitarians and health officers can not but view with alarm the increased incidence of pellagra in this state. Prior to 1912 it was not known that a case existed in the state outside of a case or two in the state hospitals. During that year, however, three deaths from this disease were reported, and in 1913 ten deaths were re

ported. Science throughout the United States is busily engaged in the study of this disease as to its cause and prevention, and in this state some very excellent work is being carried on at the Kansas University laboratories under the direction of the State Board of Health. It is to be hoped that within the next few years sufficient advancement will have been made whereby effective campaigns against its further spread can be undertaken.

TUBERCULOSIS.

The legislature of 1909 passed a law known as the Tuberculosis Registration Law, requiring the reporting of all cases of tuberculosis, that sanitary control might be taken thereof. The appropriation also provided for an educational propaganda. For three years, in accordance with the provisions of this act, the State Board of Health conducted an active and vigorous campaign by means of special exhibits, special lectures and addresses, the distribution of printed matter, moving pictures, etc.; this, together with the introduction of prophylactic measures of handling all of the cases reported under the provisions of this act. In spite of the fact that all of this work is so recent, much good has no doubt been accomplished.

During the year 1912 there were reported to the department 1085 deaths from tuberculosis (all forms), which makes a specific death rate of 64.1 per one hundred thousand; in 1913 there were reported 1088 deaths from tuberculosis (all forms), which makes a specific death rate of 64.6 per one hundred thousand; this in comparison with a rate of 149.5 per one hundred thousand for the registration area of the United States for 1912.

Under the crude methods of securing vital statistics through the reports to county health officers there were reported in the year 1905 between 1200 and 1300 deaths from this disease, and there is no doubt but that there were many more which were never reported. If this method of collection secured this many reports in 1905 it is quite safe to say that there has been a decrease since that time of not less than $33\frac{1}{3}$ per cent in the number of deaths occurring from this disease in this state.

In comparison with the registration area, we must of course consider many social elements which are of so great importance in the consideration of this disease. There is in Kansas a gratifying absence of slum districts, the housing conditions throughout the state are very fair, and we do not have a large percentage of the very poor among which class the mortality rate from tuberculosis is always extremely high. Another important element is the absence

KANSAS

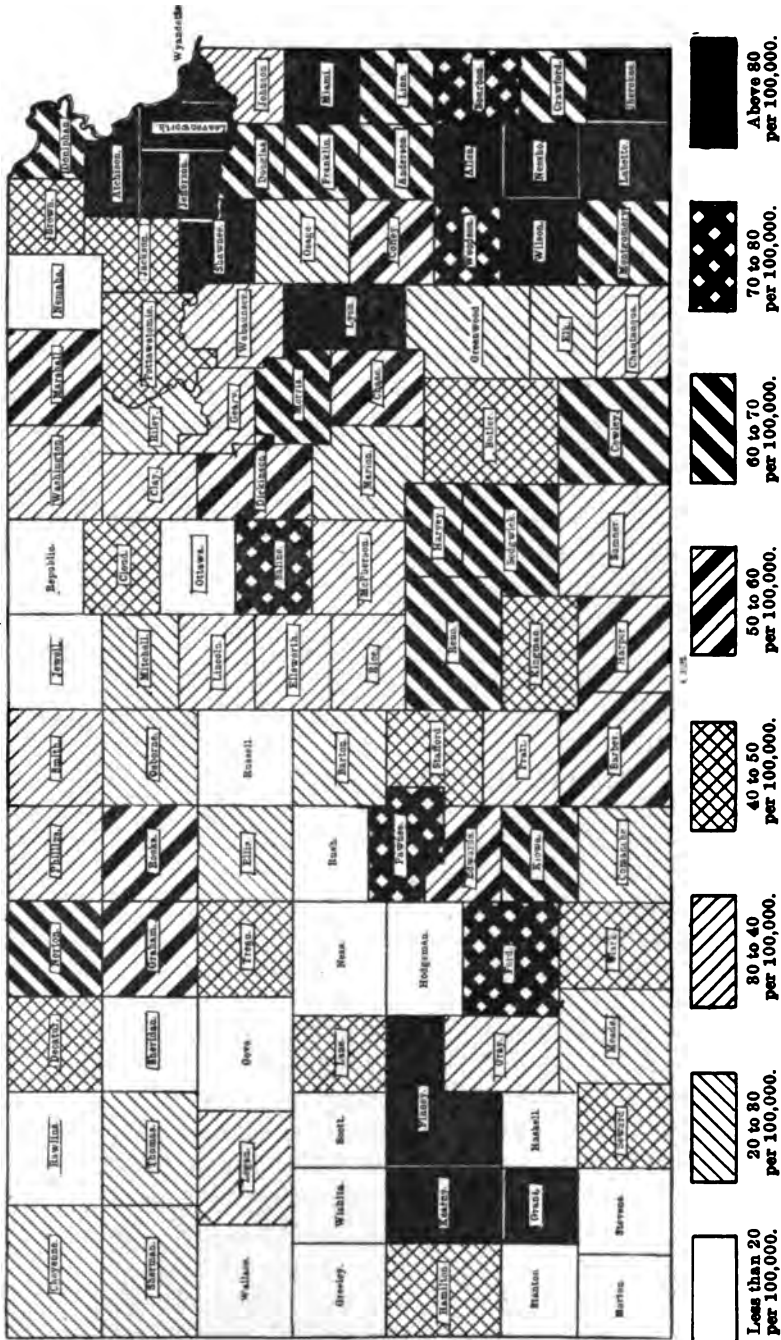


Fig. 10.—Death rates from tuberculosis by counties, 1913.

of the saloon. A constitution weakened by the effects of alcohol is an easy prey for the tubercle bacilli. Moreover, the daily wage of the laborer is saved to the family to provide better living and housing conditions, which is so necessary to establish and maintain body resistance to infectious diseases.

The maps which follow will show you the distribution by specific death rates in the various counties of the state, and will perhaps give a better idea of the distribution of this disease than from the tables which will be found to follow.

It is interesting to note that in 1912 there were twenty-one counties with a death rate of less than 20 per one hundred thousand, and sixteen counties with a rate in excess of 80 per one hundred thousand, whereas in 1913 there were nineteen counties with a rate of 20 per one hundred thousand, and fifteen counties with a rate in excess of 80.

CANCER.

It is to be regretted that Kansas is not in position to feel that any gain has been made in the control of cancer in the last few years. During the year 1912 there were reported 1056 deaths from cancer, which is a specific death rate of 62.5 per one hundred thousand, and in 1913 there were 973 deaths, a specific death rate of 57.6 per one hundred thousand; this as compared with a rate of 77 per one hundred thousand for the registration area of the United States in 1912.

Of the diseases causing high mortality there is no more serious problem before the medical profession to-day than that of the control of cancer. But little is known of its causation, and the only relief appears to be in its early recognition and operation. The two maps which follow will show how general is the distribution of the disease over the state, and differing from tuberculosis is the fact that the high mortality is found in those communities which are not so thickly settled.

It is of interest to note that in the year 1912 there were 17 counties showing a rate of less than 20 per one hundred thousand as compared with 15 in 1913, and there were 13 counties in 1912 which showed a rate in excess of 80 per one hundred thousand as compared with 15 in 1913. In the tables which follow will be found the details of cancer divided according to the location of the lesion in accordance with the International Classification.

DIABETES.

In 1912 diabetes shows a specific death rate of 13.4 per one hundred thousand and in 1913 a specific death rate of 12.9, as compared with the registration area of the United States of 15 per one hundred thousand for 1912. As diabetes is one of those diseases which is largely considered to be influenced to a greater or less extent by the use of alcohol, it is perhaps a matter of congratulation to Kansas that this rate is favorable.

ORGANIC HEART DISEASE.

Organic heart disease continues to be one of the most fatal of all diseases, the rate thereof in 1912 being 85 per one hundred thousand and 81 in 1913; this as compared to 142.6 per one hundred thousand in 1912 for the registration area of the United States.

PNEUMONIA AND BRONCHOPNEUMONIA.

These two diseases taken together showed a rate of 79.6 per one hundred thousand in 1912, and in 1913 a rate of 85.5, this being the highest rate from any disease in the latter year. Here again Kansas is considerably less than the registration area, which showed in 1912 a rate of 85.2 per one hundred thousand for pneumonia and 47 per one hundred thousand for bronchopneumonia, which would be 132.2 per one hundred thousand all together.

BRIGHT'S DISEASE.

Bright's disease showed in 1912 a death rate of 55.4 per one hundred thousand and in 1913 a rate of 64.5, as compared to a rate of 92.5 for the registration area of the United States in 1912. Here again may be seen the effects of reduced consumption of alcohol. This disease is also recognized as a result of some of the epidemic diseases of early childhood, and the exercise of more watchful care over those children who have suffered from scarlet fever and measles will frequently result in the early recognition of a lesion in the kidneys, which will aid in its control. Greater care thus exercised, together with better habits of living, will do much to reduce the death rate from this disease.

DIARRHOEA AND ENTERITIS, UNDER TWO YEARS.

In this disease we find in 1912 a specific death rate of 45.2 per one hundred thousand, and in 1913 52.8, as compared with a rate of 70.3 for the registration area of the United States in 1912.

Probably no one cause of death is as indicative of the care and cleanliness of the milk supply as in this case. Most of those cases arise from improper feeding or contaminated milk. A greater

care on the part of parents is necessary to reduce the mortality from this disease, and this can hardly be expected without the parents are brought to a knowledge of the dangers which surround their offspring from this cause.

While the death rate from this disease is much lower than in the registration area, this should not be considered as particularly gratifying, because in this great state, with its absence of slum districts, with the high rate of intelligence of its people and what should be an uncontaminated milk supply, the rate should be far lower than indicated.

SUICIDES.

The suicide rate for 1912 was 12.2 per one hundred thousand, and in 1913 10.9, as compared with a rate of 16 for the registration area of the United States in 1912. Much suicide is due to dissipation, resulting in weakened mentality and lowered resistance. It is probable that to attribute this lowered rate to the decreased opportunity for dissipation in this state would not be far wrong.

HOMICIDES.

The rate for homicides for 1912 was 4.8 per one hundred thousand, and in 1913 it was 4.6 per one hundred thousand, it being somewhat interesting to note that the actual number of homicides was identical in each year. These rates as compared to the rate of the registration area of 6.5.

Criminologists refer to an irreducible minimum from homicides, but we are loath to think that we have arrived at that point in this state.

OTHER VIOLENCE.

Under this head we include all deaths not from disease, due to external causes, with the exception of suicide and homicide. In 1912 the rate was 56.8 per hundred thousand, and in 1913 59 per one hundred thousand, as compared with a rate of 82.4 for the registration area of the United States in 1912. In these are included railroad accidents, which indeed form no small part of this number, and it is entirely probable that the favorable rate here shown is due to the very excellent work being carried on by some of the railroads in their "safety first" campaigns. This is particularly true of the Atchison, Topeka & Santa Fe Railroad Company who, with the vast number of their employees and the great number of passengers handled in this state, show an extremely favorable rate, due to the active campaign which they have carried on.

CONCLUSION.

As a whole Kansas is to be congratulated upon a very favorable death rate, but it must be borne in mind that the death rate is decreasing very generally throughout the civilized world. There are many reasons for this, among which we might mention the improvements in the art of healing, and in the practice of medicine; the improvements in the art of surgery; the better education of the people in the sanitary arts; preventive medicine, such as the introduction of diphtheria anti-toxin, typho-bacterins, and prophylactic measures in the treatment of tuberculosis. But in addition to these improvements must be considered the decreased birth rate. It is a well-known fact that the death rates are extremely high for children under one year of age, and where fewer children are born there are of course fewer children to die, and the result is a decrease in the general crude death rates. This decrease in the birth rate is common throughout the civilized world. Consequently, we must carefully consider the social condition of the people, their parentage and health, their environment, their concentration in cities and towns, their housing, their occupation, their knowledge of sanitation, and their general state of intelligence. All of these matters contribute directly toward the crude death rate.

In this connection it is interesting to glance for a moment at the state of intelligence of our people, and this is perhaps best described by the amount of illiteracy. In the United States in 1910 there were 7.7 per cent of the population above the age of ten years who were illiterate. In Kansas this percentage was reduced to 2.2 per cent. Therefore, Kansas, with its ideal social conditions, its high state of intelligence, its wealth and its power, should furnish the world an example of an ideal community in which to live.

TABLE NO. 1.—SHOWING THE NUMBER OF BIRTHS (EXCLUSIVE OF STILLBIRTHS) BY SEX, COLOR AND MONTH OF OCCURRENCE, FOR THE YEAR 1912.

COUNTIES.	Total births.	Male	Female	White	Colored	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Totals	38,005	19,435	18,570	37,195	810	3,295	2,907	2,914	2,760	2,782	2,597	2,685	3,458	3,686	3,982	3,984	3,055
Allen	480	231	249	460	20	53	32	39	40	34	37	44	43	38	38	45	37
Anderson	234	124	130	231	3	20	15	10	23	15	14	13	23	23	23	36	15
Atchison	515	210	255	335	20	46	19	35	22	32	31	30	33	37	51	36	42
Barber	241	129	112	241	4	25	21	14	14	17	15	13	21	40	22	13	16
Barton	547	275	272	543	4	53	53	47	37	37	33	36	60	58	53	43	52
Bourbon	439	250	239	476	13	35	43	31	32	33	30	40	49	40	53	54	49
Brown	478	246	233	466	12	36	44	36	46	31	39	34	53	35	45	53	36
Butler	590	253	272	525	5	54	69	35	30	36	35	42	45	64	57	53	30
Chase	191	96	95	190	1	16	16	14	17	19	18	9	15	12	24	23	7
Chautauque	264	140	124	263	1	29	7	26	32	24	10	23	26	14	26	27	20
Cherokee	967	512	445	935	22	82	86	77	82	53	77	75	73	99	83	95	80
Cheyenne	76	36	39	73	2	5	1	13	7	24	1	8	10	9	6	7	3
Clark	188	82	54	186	1	14	5	2	23	24	9	4	10	13	23	16	8
Clay	387	194	188	386	1	28	29	14	28	42	27	26	56	40	42	42	36
Cloud	509	254	255	507	2	54	31	31	33	36	53	23	50	50	51	44	43
Coffey	253	123	135	253	23	23	19	20	7	15	13	17	24	33	33	33	21
Comanche	134	67	67	134	8	8	8	8	14	6	10	9	20	17	6	24	4
Cowley	618	314	304	611	7	59	41	43	35	58	62	36	50	64	53	54	63
Crawford	660	614	604	1,257	17	140	86	95	88	123	71	89	100	108	116	137	116
D. car.	126	68	58	126	6	13	9	6	6	10	8	13	17	13	16	9	11
Dickinson	601	305	296	594	7	55	55	42	42	62	21	49	41	54	32	44	54
Doniphan	377	189	188	362	15	26	26	24	31	35	38	25	37	32	33	37	33
Douglas	333	212	171	355	23	32	24	29	23	29	24	23	38	33	33	28	26
Edwards	193	97	96	190	3	16	11	20	12	9	16	11	8	26	23	27	13
Ell.	214	109	105	213	1	15	31	16	20	12	5	24	15	20	22	18	16
Ell.s.	463	256	212	466	2	33	53	49	32	39	32	31	42	33	43	41	30
Ellsworth	290	142	148	233	2	29	17	11	25	12	19	12	33	38	42	33	30
Finney	146	77	69	139	7	15	9	7	11	9	13	11	25	14	13	13	6
Ford	403	207	196	393	8	23	23	15	46	21	27	23	44	32	49	57	39
Franklin	446	202	242	442	4	42	37	29	27	31	33	30	32	43	52	41	43
Geary	233	141	142	275	7	26	27	22	25	23	14	18	26	43	31	33	21
Gove	116	61	55	116	.....	13	5	12	12	7	8	4	11	16	15	6	7

Graham.....	199	106	98	192	7	26	8	15	12	22	14	6	15	21	7	29	24
Grant.....	17	6	47	17	.....	4	1	2	.....	2	.....	.....	8	2	.....	2	1
Gray.....	96	49	47	96	.....	.....	6	5	8	9	8	8	7	18	14	17	7
Greely.....	20	12	8	20	.....	.....	.....	1	8	.....	.....	.....	2	3	.....	.....	.....
Greenwood.....	865	179	186	864	1	25	31	17	49	14	.....	30	34	88	88	56	24
Hamilton.....	61	85	26	86	.....	.....	4	11	8	.....	5	6	7	4	5	4	2
Harper.....	869	186	183	866	1	18	52	26	29	22	15	17	50	26	45	4	20
Harvey.....	472	231	241	460	12	26	26	41	47	34	87	23	42	28	61	54	32
Haskell.....	27	18	9	27	.....	8	1	2	1	3	2	1	1	2	4	5	2
Hodgeman.....	84	43	41	80	4	12	8	8	12	4	8	8	1	11	5	9	8
Jackson.....	889	182	157	888	1	28	31	21	83	25	21	21	27	81	26	36	29
Jefferson.....	883	168	170	823	15	14	41	81	82	21	14	43	27	86	42	25	25
Jewell.....	898	197	196	893	.....	44	27	36	23	32	13	31	32	87	27	45	27
Johnson.....	881	161	170	819	12	20	33	32	82	15	83	28	34	23	47	29	37
Kearny.....	47	25	22	47	.....	5	1	4	4	8	2	2	11	1	5	6	3
Kingman.....	223	117	106	223	.....	12	28	23	14	18	20	15	21	12	25	16	19
Kiowa.....	211	108	108	211	.....	15	1	27	5	21	22	18	22	24	21	8	22
Labette.....	676	333	323	683	23	65	59	51	48	54	28	53	67	64	66	62	59
Lane.....	53	31	22	53	.....	3	4	4	1	6	8	3	5	2	10	9	3
Leavenworth.....	592	298	294	587	35	41	23	42	47	32	41	57	54	60	76	69	46
Lincoln.....	277	148	129	275	2	34	18	19	21	18	17	19	31	28	25	34	13
Linn.....	364	165	199	356	8	80	30	36	18	43	31	21	30	32	49	25	26
Logan.....	59	36	23	55	4	3	11	4	3	8	1	6	1	8	6	2	6
Lyon.....	516	239	277	513	3	35	41	2	34	37	39	38	51	59	52	77	32
Marion.....	611	316	295	608	3	63	39	45	44	35	35	39	71	68	60	64	48
Marshall.....	544	275	269	542	2	54	43	53	27	41	48	31	60	38	51	47	46
McPherson.....	505	265	239	505	.....	43	49	37	46	36	36	31	53	48	50	41	35
Meade.....	139	68	71	139	.....	5	10	20	5	7	12	6	7	14	15	22	16
Miami.....	864	188	176	856	8	53	20	31	16	25	30	24	31	30	44	35	25
Mitchell.....	398	208	182	398	.....	42	26	28	35	32	25	12	37	37	51	40	23
Montgomery.....	1,032	572	510	1,032	44	116	81	89	53	72	75	71	92	104	129	108	92
Morris.....	277	137	140	272	5	2	23	12	19	20	22	17	38	23	33	25	25
Morton.....	57	13	14	57	.....	2	.....	3	.....	3	4	3	.....	2	1	10	1
Nemaha.....	530	277	253	529	1	.....	38	48	50	37	40	37	59	35	76	41	34
Neosho.....	598	326	272	592	6	62	47	39	39	60	39	51	45	46	45	60	65
Ness.....	156	85	71	156	.....	13	12	15	16	9	7	10	11	17	16	15	15
North.....	225	111	114	225	.....	11	8	16	22	16	21	9	15	19	18	54	16
Oage.....	383	200	183	378	5	22	27	27	30	22	22	25	44	41	37	54	31
Osborne.....	271	129	132	271	.....	18	20	21	29	25	18	28	13	30	33	32	20
Ottawa.....	299	153	146	296	3	20	24	27	28	26	19	9	25	32	26	26	23
Pawnee.....	250	139	111	244	6	12	18	16	25	14	11	17	26	28	19	19	37
Phillips.....	253	126	127	253	.....	12	31	26	10	17	11	10	43	27	32	20	14

TABLE No. 1.—Showing the Number of Births, etc.—Continued.

COUNTIES.	Total births...	Male.....	Female...	White....	Colored...	Jan.....	Feb.....	Mar.....	Apr.....	May.....	June.....	July.....	Aug.....	Sep.....	Oct.....	Nov.....	Dec.....
Ottawatomie.....	363	183	175	355	8	23	22	26	42	27	22	22	33	42	23	45	19
Pratt.....	332	202	130	350	2	21	31	13	19	27	27	23	26	36	34	36	17
Rawlins.....	119	69	50	119		12	17	11	16	12	4	4	16	6	16	10	6
Reno.....	981	433	448	916	15	37	74	66	56	70	70	83	64	97	80	107	77
Republic.....	406	201	205	406		25	24	31	26	23	30	30	13	55	50	56	31
Rice.....	410	212	198	404	6	29	29	44	27	41	26	27	32	30	43	44	38
Riley.....	391	196	195	383	8	35	36	50	18	25	25	23	31	37	28	43	43
Roots.....	284	122	162	233	1	44	12	23	20	26	16	20	19	24	27	20	19
Rush.....	300	84	116	300		19	2	25	23	12	10	6	20	16	24	23	15
Russell.....	233	153	180	233		28	14	15	16	23	18	21	22	29	29	37	22
Saline.....	461	240	221	453	8	29	37	33	30	35	29	33	50	53	54	40	33
Scott.....	40	19	21	40		6	3		3	4	7	4	1	3	6	2	1
Sedgwick.....	1,464	705	749	1,396	68	16	98	104	106	103	82	99	135	145	162	145	121
Seward.....	1,123	66	63	1,123	9	12	9	16	8	15	9	14	6	15	8	4	12
Shawnee.....	1,207	635	572	1,104	103	88	105	106	73	101	95	99	114	116	122	69	119
Sheridan.....	108	59	49	108		6	5	4	15	8	11	8	11	9	14	11	6
Sherman.....	39	76	38	76	1	6	3	8	5	7	4	4	11	10	9	4	4
Smith.....	400	193	207	400		43	28	18	33	10	36	33	22	51	32	53	21
Stafford.....	340	170	170	337	3	29	32	25	12	18		22	50	23	36	34	27
Stanton.....	7	3	4	7							4	1	1	1	1		
Stevens.....	63	33	30	63	5	6	4	2	2	8	8	37	59	64	70	79	14
Sumer.....	676	359	337	671	5	63	60	51	57	52	49	4	8	8	8	79	55
Thomas.....	73	33	40	73			13	8	8	9	8	1	9	9	16	16	3
Trego.....	116	55	61	116		26	21	14	21	11	21	22	21	22	15	24	33
Wabaunsee.....	251	126	115	237	14				8	2	4	4	6	4	6	6	3
Wallace.....	38	19	19	38		5	2		3	1	30	43	56	50	43	49	2
Washington.....	479	247	232	479		37	39	27	46	25	30	43	5	2	8	4	34
Wichita.....	37	12	25	36	1	7	1		4	3		1					1
Wilson.....	570	301	269	566	4	51	53	48	22	42	43	32	42	49	60	71	37
Woodson.....	183	88	95	183		11	16	11	10	13	9	22	12	15	13	13	34
Wyandotte.....	2,374	1,144	1,180	2,139	185	144	172	246	160	142	186	191	164	233	196	250	191

TABLE No. 2.—SHOWING THE NUMBER OF DEATHS (EXCEPT STILLBIRTHS) BY SEX, COLOR, SOCIAL CONDITION AND NATIVITY, FOR THE YEAR 1912.

COUNTIES.	Total deaths...	Male.....	Female....	White....	Indian....	Chinese...	Black....	Single...	Married...	Widowed..	Divorced..	Unknown.	Native....	Foreign...	Unknown
Totals.....	17,138	9,491	7,762	16,033	23	1	1,126	6,386	6,966	3,405	142	294	14,439	2,324	420
Allen.....	261	128	133	251			10	72	119	60	5	4	233	23	5
Anderson.....	138	78	65	125			2	45	82	27	1	3	123	14	1
Archison.....	293	152	111	239			34	80	112	63	2	1	220	29	4
Barber.....	78	47	31	77			1	26	29	19	2	2	69	7	2
Baron.....	167	90	77	153			14	67	66	26	4	4	119	43	5
Bourbon.....	268	136	132	227			41	91	110	61	5	1	237	21	10
Brown.....	218	121	92	201	3		9	63	79	59	2	5	178	33	2
Butler.....	183	106	77	181			2	63	80	34	1	3	163	13	1
Chase.....	32	21	21	49			3	21	22	8		1	43	7	2
Chautauque.....	112	62	50	112				44	47	20		1	109	2	1
Cherokee.....	469	259	210	446			23	222	163	73	1	5	402	90	7
Cheyenne.....	25	16	11	25				13	9	2		1	22	2	2
Clark.....	39	20	39	39				16	14	7	1	1	35	3	1
Clay.....	121	69	52	119			2	46	47	25	3		90	31	
Cloud.....	188	104	84	188				69	89	23		2	154	34	
Coffey.....	150	75	75	149			1	41	76	26	2	5	130	15	5
Comanche.....	29	18	11	29				17	8	4			23	1	
Cowley.....	353	200	153	340			13	134	148	63	2	6	329	19	5
Crawford.....	666	372	294	624			32	302	242	101	4	7	623	123	10
Decatur.....	59	36	23	53				16	31	9	1	2	46	9	4
Dickinson.....	235	143	92	234			1	83	100	43	2	2	189	45	1
Doniphan.....	125	63	116	116			10	54	46	25		2	103	15	4
Douglas.....	270	125	135	239	2		29	85	166	74	2	4	222	46	2
Edwards.....	49	27	22	43			1	13	22	5		4	44	5	
Elk.....	87	52	35	87				22	39	24		2	78	6	3
Ellis.....	112	63	49	111			1	53	41	13			79	32	1
Ellsworth.....	91	33	53	90			1	35	26	25	1	3	64	24	3
Funney.....	62	36	26	58			4	25	27	8		2	55	6	1
Ford.....	136	81	54	130			5	45	69	18		3	115	13	7
Franklin.....	257	135	122	247	1		9	61	113	79	1	3	231	34	10
Geary.....	110	60	50	97	1		12	40	53	16		1	99	21	
Gove.....	30	16	14	29			1	12	13	5			23	1	1

TABLE NO. 2.—Showing number of deaths, etc.—Continued

COUNTIES.	Total deaths...	Male.....	Female.....	White.....	Indian.....	Chinese.....	Black.....	Single.....	Married.....	Widowed...	Divorced...	Unknown...	Native.....	Foreign.....	Unknown...
Graham.....	55	29	26	42	1		12	21	21	13			50	5	
Grant.....	7	5	2	7				2	3	2			7		
Gray.....	23	17	11	23				7	16	4	1		23	5	
Grealey.....	8	3	5	7			1	4	4				6		
Greenwood.....	126	64	62	126				27	59	39	1		104	20	2
Hamilton.....	23	17	6	23					15	3			15	6	2
Harper.....	112	61	51	111			1	5	52	14			105	5	2
Harvey.....	183	99	89	183		1	4	46	87	45	2	3	146	37	5
Haskell.....	4	1	3	4				1	3				3	1	
Hodgeman.....	22	11	11	19			3	13	7	2			18	4	
Jackson.....	132	85	67	133	11		3	55	55	35	3	3	130	13	4
Jefferson.....	180	99	81	163			12	59	72	43	4	2	162	16	2
Jewell.....	165	94	71	165				55	72	32		5	149	14	2
Johnson.....	193	106	92	186			13	67	84	45		2	176	21	1
Kearney.....	18	9	9	13				9	3	6			17	1	
Kingman.....	106	59	53	107			1	43	45	17			94	13	1
Kiowa.....	32	24	24	32				26	19	5		2	49	2	1
Labette.....	357	196	159	321	1		35	147	142	61	3	4	321	23	3
Lane.....	12	6	6	12				5	6			1	11		1
Leavenworth.....	526	312	214	464	1		61	163	189	156	6	32	381	106	39
Lincoln.....	79	47	32	79				23	29	15		2	63	14	2
Linn.....	147	78	69	137			10	55	49	33	1	4	139	4	4
Logan.....	27	16	11	23			4	20	2	5			24	2	1
Lyons.....	265	125	141	253	1		13	84	114	62		4	237	34	5
Marion.....	201	99	102	199			2	73	82	39	1	1	145	56	
Marshall.....	203	116	87	199	1		3	61	81	57	1	3	147	54	2
McPherson.....	187	97	90	187				55	84	44	2	1	123	53	1
Meade.....	40	22	13	46				19	13	3			26	3	1
Miami.....	294	157	137	264			30	91	135	155	6	7	234	32	23
Mitchell.....	133	66	67	132			1	49	49	32	1	2	113	19	1
Montgomery.....	532	291	261	493	1		53	233	210	95	4	10	502	31	19
Morris.....	96	47	43	87			8	24	44	21	1	5	70	21	4
Morton.....	8	1	2					3	1				3		
Nemaha.....	166	81	85	165			1	50	76	33	1	7	132	23	6

Kansas State Board of Health.

COUNTIES.	Under 1.	1-2.....	3-5.....	6-10.....	11-15...	16-20...	21-25...	26-30...	31-35.....	36-40.....	41-50....	51-60....	61-70....	71-80....	81-90....	Above 90.....	Un-known.
Totals.....	2,804	797	334	294	309	496	597	600	643	599	1,228	1,650	2,435	2,779	1,369	189	60
Allen.....	31	12	4	1	1	11	8	10	11	6	23	28	32	62	19	2	.....
Anderson.....	19	3	5	4	5	9	4	5	6	1	11	16	20	27	12	2	.....
Atchison.....	31	10	3	5	5	9	10	9	8	5	18	33	39	45	27	3	.....
Barber.....	11	6	1	1	1	1	1	3	.....	.....	4	6	13	18	4	1	.....
Barton.....	33	4	4	1	2	3	10	8	8	3	13	20	22	21	8	.....
Bourbon.....	33	15	6	12	8	10	9	6	6	10	19	25	33	43	32	3	.....
Brown.....	27	11	2	6	.....	7	9	4	5	6	13	20	35	48	24	3	.....
Bufile.....	31	9	5	2	4	3	4	2	6	5	7	14	29	45	14	3	.....
Chase.....	11	1	1	.....	.....	2	2	.....	2	2	3	9	8	16	1	.....
Chautauque.....	18	9	2	3	3	3	4	6	5	4	3	8	16	16	11	.....
Cherokee.....	101	49	22	8	6	11	7	17	12	12	29	47	65	55	20	7	.....
Gnyeyanne.....	8	3	.....	.....	3	1	.....	.....	.....	.....	2	3	3	4	1	.....
Clark.....	10	3	.....	.....	1	3	2	1	7	.....	3	3	7	25	3	.....
Clay.....	31	5	1	2	.....	3	3	4	.....	2	5	10	20	32	13	2	.....
Cloud.....	36	7	2	4	4	6	6	4	6	5	10	19	33	32	10	4	.....
Coffey.....	17	4	3	.....	2	4	5	8	5	4	10	23	27	23	6	4	.....
Comanche.....	5	5	1	2	2	.....	1	.....	1	1	3	4	.....	1	.....	.....
Cowley.....	41	20	3	10	3	20	19	14	15	16	25	32	51	60	26	3	.....
Crawford.....	140	56	22	8	10	23	25	31	30	24	59	58	75	80	37	5	.....
Decatur.....	5	4	.....	.....	1	.....	3	.....	2	2	10	12	7	10	3	.....
Dickinson.....	33	10	4	5	3	3	8	9	9	3	16	14	37	49	19	8	.....
Doniphan.....	24	6	1	5	3	2	4	4	6	6	12	12	17	20	13	1	.....
Douglas.....	30	5	2	2	5	9	12	6	3	7	21	23	41	53	36	3	.....
Edwards.....	7	5	1	1	1	1	1	1	1	1	4	7	10	6	1	.....
Elk.....	10	3	1	.....	1	1	5	2	4	1	7	7	12	20	13	.....
Ellis.....	32	10	2	3	6	2	4	2	2	1	4	10	14	13	6	1	.....
Ellsworth.....	20	2	3	1	.....	4	4	.....	9	1	6	6	10	15	5	2	.....
Finney.....	15	3	.....	.....	.....	2	4	2	4	2	2	7	8	8	4	.....
Ford.....	17	4	3	2	3	2	9	4	4	5	9	14	19	23	11	1	.....
Franklin.....	24	10	2	3	3	4	7	11	6	8	9	25	40	61	39	4	.....
Gearry.....	23	4	.....	.....	1	3	6	2	3	2	7	10	21	16	5	1	.....
Gove.....	5	2	1	1	1	2	.....	.....	.....	.....	3	6	3	3	3	1	.....
Grant.....	11	1	4	3	.....	4	.....	3	1	.....	3	7	12	5	.....	.....
Grant.....	1	.....	.....	1	.....	1	1	.....	.....	.....	1	1	.....	.....	.....	.....

[illegible]

TABLE No. 3. — Showing the number of deaths by ages for the year 1912 — Continued.

COUNTIES.	Under 1.	1-2.....	3-5.....	6-10.....	11-15.....	16-20.....	21-25.....	26-30.....	31-35.....	36-40.....	41-50.....	51-60.....	61-70...	71-80....	81-90....	Above 90.....	Un-known.
Rawlins.....	10	6	5	3	7	1	16	14	1	12	3	4	1	5	3	1	
Reno.....	78	23	3	1	2	8	5	4	16	12	39	42	52	54	21	2	
Republ.....	23	3	3	1	7	2	3	4	3	5	10	16	24	23	23	3	
Rice.....	32	5	5	4	3	2	3	1	5	2	2	7	19	22	14	4	1
Riley.....	29	6	4	1	3	1	5	5	4	2	12	18	31	38	18	3	
Rooks.....	11	5	3	3	1	1	4	2	1	3	6	11	12	15	9	1	
Rush.....	17	6	1	1	3	2	5	6	2	3	7	6	10	4	3	1	
Russell.....	30	4	3	1	3	3	5	8	4	4	2	4	13	8	5	1	
Saline.....	23	4	3	5	3	6	8	8	3	9	16	18	21	30	25	1	
Scott.....	5	3	3	2	3	2	2	2	2	1	4	6	21	4	1	1	
Sedgwick.....	129	28	13	11	25	26	24	31	50	35	64	92	109	122	50	13	1
Seward.....	4	5	1	1	3	1	2	3	2	45	79	103	154	145	72	8	6
Shawnee.....	102	42	16	13	19	33	32	38	38	2	3	2	8	7	3	1	
Sheridan.....	7	1	1	2	2	1	1	2	3	2	3	3	6	4	3	1	
Sherman.....																	
Smith.....	22	5	4	3	4	2	2	4	5	2	6	6	17	23	9	1	
Stafford.....	23	5	1	2	2	1	1	3	3	3	4	7	11	14	10	2	
Stanton.....									1				1	1	1		
Stevens.....	1	2	1	2	2	4	10	9	1	8	19	22	36	36	17	2	1
Sumner.....	41	14	4	5	6	5	5	9	5	2	10	22	36	36	17	2	1
Thomas.....	3	2	1	1	1	2	1	1	2	1	2	2	2	6	3	1	
Trego.....	8	6	1	1	1	2	1	3	2	1	2	3	3	2	3	1	
Wabasha.....	23	3	2	2	4	1	3	3	4	1	10	8	13	25	6	1	1
Wallace.....	3	3	2	2	4	1	3	1	4	1	4	4	2	1	1		
Washington.....	22	7	1	2	2	3	2	3	5	5	5	20	27	40	18		
Wichita.....																	
Wichita.....	40	16	5	8	4	1	3	8	1	8	18	1	1	1	1	3	
Wilson.....	21	5	2	2	1	2	3	5	5	1	6	9	94	36	12	3	
Woodson.....	23	8	2	2	2	2	2	2	4	101	8	14	16	20	5	3	
Wyandotte.....	259	82	41	30	27	80	89	82	94	101	154	169	174	127	43	3	7

TABLE No. 4.—SHOWING THE NUMBER OF DEATHS BY COUNTIES FROM VARIOUS CAUSES FOR THE YEAR 1912.

COUNTIES.	Typhoid fever.....	Smallpox....	Measles.....	Scarlet fever..	Whooping cough.....	Diphtheria....	Dysentery....	Tuberculosis, all forms....	Cancer, all forms.....	Rheumatism, all forms...	Diabetes.....	Other general diseases.....	Meningitis....	Cerebral hemorrhages.....	Paralysis.....	Other diseases nervous system.....	Organic heart disease.....	Other diseases circulatory system.....
Totals.....	345	3	60	60	156	121	70	1,085	1,066	145	227	548	309	918	414	511	1,436	469
Allen.....	8	.....	.....	2	2	1	.....	14	12	1	4	17	5	14	9	3	23	7
Anderson.....	6	.....	1	.....	1	.....	.....	11	7	1	1	2	.....	9	4	2	13	2
Atchison.....	6	.....	2	.....	1	2	.....	12	16	2	2	9	2	20	5	1	21	3
Barber.....	2	.....	.....	.....	.....	.....	.....	5	6	1	2	.....	.....	10	2	3	18	1
Barnett.....	3	.....	.....	.....	.....	1	1	.....	14	4	.....	.....	.....	1	5	5	10	6
Bourbon.....	11	.....	4	2	1	.....	.....	13	11	2	7	11	1	8	7	4	30	3
Brown.....	3	.....	.....	.....	2	.....	.....	11	15	2	3	10	5	16	3	7	21	7
Brown.....	1	.....	.....	.....	.....	3	1	10	14	1	.....	19	1	12	3	7	20	5
Butler.....	1	.....	.....	.....	.....	.....	.....	6	6	.....	.....	.....	.....	1	.....	7	4	1
Chase.....	1	.....	.....	.....	.....	1	.....	8	9	2	2	5	1	.....	2	1	7	2
Chautauque.....	4	.....	.....	.....	.....	.....	.....	8	6	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cherokee.....	11	.....	18	8	20	14	2	32	18	5	6	17	6	16	13	9	19	7
Cherokee.....	2	.....	.....	.....	.....	.....	.....	2	.....	.....	1	.....	1	1	1	.....	1	.....
Clatsop.....	1	.....	.....	.....	.....	.....	.....	3	3	.....	.....	.....	.....	3	.....	2	.....	.....
Clay.....	2	.....	.....	.....	.....	.....	.....	8	9	.....	5	5	2	8	4	5	10	1
Cloud.....	.....	.....	.....	.....	5	.....	.....	3	22	8	1	5	.....	15	6	.....	14	7
Coffey.....	7	.....	.....	.....	.....	.....	.....	15	13	3	1	6	3	7	4	4	14	8
Comanche.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Cowley.....	10	.....	.....	3	6	.....	4	25	23	3	5	11	6	19	9	10	31	9
Crawford.....	17	.....	14	7	15	8	3	32	31	2	4	27	12	33	5	14	31	10
Decatur.....	3	.....	.....	.....	.....	.....	1	20	7	.....	1	.....	.....	4	1	.....	1	1
Dickinson.....	3	.....	.....	.....	.....	.....	1	16	16	6	6	10	4	17	6	8	15	5
Doniphan.....	3	.....	.....	1	.....	1	1	7	7	2	1	2	3	10	4	4	17	3
Douglas.....	3	.....	.....	.....	2	1	1	13	27	1	2	13	5	17	17	7	23	4
Edwards.....	1	.....	.....	.....	.....	.....	.....	2	4	2	1	1	3	2	2	3	3	.....
Ellis.....	1	.....	.....	.....	.....	.....	.....	5	5	.....	1	2	2	5	2	.....	7	5
Ellis.....	7	.....	.....	.....	.....	3	1	3	6	.....	3	5	.....	2	.....	2	6	3
Ellsworth.....	.....	.....	.....	.....	.....	1	.....	6	9	.....	.....	4	.....	6	.....	3	11	.....
Finney.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ford.....	2	.....	.....	.....	.....	.....	.....	3	2	.....	.....	.....	1	3	4	10	2	1

TABLE No. 4.—Showing the number of deaths by counties — Continued.

COUNTIES.	Typhoid fever	Smallpox	Measles	Scarlet fever	Whooping cough	Diphtheria	Dysentery	Tuberculosis, all forms	Cancer, all forms	Rheumatism, all forms	Diabetes	Other general diseases	Meningitis	Cerebral hemor- rhage	Paralysis	Other diseases nervous system	Organic heart disease	Other diseases circulatory system
Gove	1					1		1	1			1	1	4			3	3
Graham						1		4	1	1	2			1	3		1	
Grant																		
Gray	1							3	3						2	1	4	
Greeley																		
Greenwood	1				1	2	3	4	3	1	3	9		8	12	2	11	3
Hamilton							1	1										
Harper	4			1		1	1	1	3		2	7		4	2	2	3	3
Harvey	4			1	2	1	1	6	12	1	3	5	4	9	4	1	23	7
Haskell																		
Hodgeman	1									1	1			1			3	1
Jackson	4				1		1	5	10	3	2	6	2	12	1		13	5
Jefferson	1				6		3	12	9	1	6	6	3	6	1	4	22	9
Jewell	4			2		1	2	9	10	3	2	7	2	7	9	5	13	3
Johnson	4					1	2	12	14	2	2	2		12	7	4	25	2
Kearny						1		3	12	3	1	2		2	2		1	
Kingman					1			3	3	2	2	2	1	7	2	2	3	3
Kiowa	1							5	3	4	1	12	5	11	6	24	29	6
Labette	10	4	5		5	3	3	39	23									
Lane						1		28	39	4	7	13	7	39	7		71	18
Leavenworth	4			14	8			2	10	1				5			7	
Lincoln	2				1		1	10	6	2	2	8	3	3	3		7	3
Linn	4				3			6									9	2
Logan						1		6	1					1				
Lyon	6				1			19	20	2	4	17	2	1	7	11	27	4
Marion						3		8	6	1	3	12	1	13	6		10	4
Marshall	5			2	1		1	9	14	4	3	3		8	5	2	23	4
McPherson										2	1		2	13	3	3	20	8
Meade	3			1	1	2	2	6	3			1					3	
Miami	1		1				1	21	7		1	7		21	7		25	2
Mitchell	2					4		6	8	1	1	11	1	6	2	3	13	7

Montgomery	11	1	2	12	5	4	25	20	5	1	1	14	4	11	10	11	42	18
Morris	1	1	1	1	5	1	5	7	1	1	1	12	1	1	2	1	11	1
Morton	1	1	1	1	8	1	8	14	1	1	1	12	1	1	1	1	11	1
Nemaha	1	1	1	1	15	1	15	16	2	1	1	12	1	1	1	1	14	8
Nescho	1	1	1	1	1	1	1	5	1	1	1	12	1	1	1	1	26	6
Ness	1	1	1	1	1	1	1	5	1	1	1	12	1	1	1	1	1	1
Norton	1	1	1	1	10	1	10	8	1	1	1	12	1	1	1	1	8	4
Osage	1	1	1	1	11	1	11	11	1	1	1	12	1	1	1	1	26	4
Osborne	1	1	1	1	8	1	8	9	1	1	1	12	1	1	1	1	8	4
Ottawa	1	1	1	1	8	1	8	8	1	1	1	12	1	1	1	1	6	4
Pawnee	1	1	1	1	5	1	5	5	1	1	1	12	1	1	1	1	6	2
Phillips	1	1	1	1	5	1	5	5	1	1	1	12	1	1	1	1	7	1
Pottawatomie	1	1	1	1	4	1	4	8	1	1	1	12	1	1	1	1	13	5
Pratt	1	1	1	1	5	1	5	6	1	1	1	12	1	1	1	1	5	2
Ravenna	1	1	1	1	1	1	1	1	1	1	1	12	1	1	1	1	4	1
Reno	1	1	1	1	24	1	24	22	1	1	1	10	1	1	1	1	22	25
Republic	1	1	1	1	6	1	6	11	1	1	1	12	1	1	1	1	11	8
Rice	1	1	1	1	6	1	6	11	1	1	1	12	1	1	1	1	8	1
Riley	1	1	1	1	13	1	13	11	1	1	1	12	1	1	1	1	19	5
Rooks	1	1	1	1	2	1	2	6	1	1	1	12	1	1	1	1	7	1
Rush	1	1	1	1	2	1	2	2	1	1	1	12	1	1	1	1	5	1
Russell	1	1	1	1	1	1	1	2	1	1	1	12	1	1	1	1	3	1
Saline	1	1	1	1	15	1	15	16	1	1	1	12	1	1	1	1	12	6
Scott	1	1	1	1	3	1	3	52	1	1	1	12	1	1	1	1	6	1
Sedgwick	1	1	1	1	2	1	2	2	1	1	1	12	1	1	1	1	77	23
Seward	1	1	1	1	2	1	2	2	1	1	1	12	1	1	1	1	1	1
Shawnee	1	1	1	1	73	1	73	56	1	1	1	12	1	1	1	1	35	39
Sheridan	1	1	1	1	1	1	1	1	1	1	1	12	1	1	1	1	2	1
Sherman	1	1	1	1	3	1	3	2	1	1	1	12	1	1	1	1	5	1
Smith	1	1	1	1	11	1	11	1	1	1	1	12	1	1	1	1	10	2
Stafford	1	1	1	1	2	1	2	1	1	1	1	12	1	1	1	1	4	3
Stanton	1	1	1	1	1	1	1	1	1	1	1	12	1	1	1	1	1	1
Stevens	1	1	1	1	1	1	1	1	1	1	1	12	1	1	1	1	1	1
Sumner	1	1	1	1	12	1	12	17	1	1	1	12	1	1	1	1	19	13
Thomas	1	1	1	1	1	1	1	2	1	1	1	12	1	1	1	1	2	1
Trego	1	1	1	1	1	1	1	2	1	1	1	12	1	1	1	1	3	1
Vernon	1	1	1	1	4	1	4	6	1	1	1	12	1	1	1	1	10	1
Vernon	1	1	1	1	1	1	1	2	1	1	1	12	1	1	1	1	1	1
Wallace	1	1	1	1	1	1	1	1	1	1	1	12	1	1	1	1	1	1
Washington	1	1	1	1	3	1	3	13	1	1	1	12	1	1	1	1	14	2
Wichita	1	1	1	1	9	1	9	14	1	1	1	12	1	1	1	1	1	1
Wilson	1	1	1	1	5	1	5	3	1	1	1	12	1	1	1	1	16	2
Woodson	1	1	1	1	3	1	3	3	1	1	1	12	1	1	1	1	8	7
Wyandotte	1	1	1	1	6	1	6	84	1	1	1	12	1	1	1	1	134	80

TABLE No. 4, Part 2.—SHOWING THE NUMBER OF DEATHS BY COUNTIES FROM VARIOUS CAUSES FOR THE YEAR 1912.

COUNTIES.	Broncho-pneumonia.	Pneumonia.	Other diseases respiratory system.	Diarrhea, enteritis (under 2 yrs).	Diarrhea, enteritis (2 yrs and over).	Appendicitis.	Diseases of liver and adnexa.	Peritonitis.	Other diseases digestive system.	Acute nephritis.	Bright's disease.	Other diseases genito-urinary system.	The puerperal state.	Diseases of the skin, etc.	Diseases of the bones, etc.	Malformations.	Diseases of early infancy.	Old age.
Totals.	575	770	433	764	253	173	306	91	459	121	936	182	237	55	26	233	1224	875
Allen.	9	23	8	8	6	1	3	1	11	2	12	2	4	3	2	1	16	13
Anderson.	3	9	2	5	2	1	1	1	11	2	4	1	2	1	1	3	7	6
Atchison.	9	24	4	3	4	1	4	2	7	3	26	1	2	1	1	3	22	17
Barber.	2	2	5	1	1	3	1	1	1	2	6	1	4	1	1	2	4	2
Barton.	1	5	7	11	1	1	1	1	4	1	10	1	4	1	1	3	14	6
Bourbon.	9	12	15	11	8	1	2	3	5	1	11	4	1	1	1	1	16	24
Brown.	6	13	4	10	7	2	7	1	8	1	9	2	2	1	1	4	11	11
Butler.	4	3	8	6	2	2	7	1	7	2	13	2	1	4	1	4	17	6
Chase.	2	3	1	1	1	1	1	1	1	1	8	1	2	1	1	3	6	1
Chautauque.	1	3	1	10	3	1	5	1	1	1	16	1	1	1	1	3	5	4
Cherokee.	21	17	7	22	5	5	12	3	12	3	29	2	6	4	1	12	31	17
Cheyenne.	2	1	1	3	1	1	2	1	1	1	1	1	1	1	1	1	3	2
Clark.	2	2	1	3	1	1	3	1	1	1	1	1	1	1	1	1	6	2
Clay.	2	2	5	4	2	4	4	2	2	2	6	3	5	3	3	1	10	9
Cloud.	4	12	6	8	3	3	3	3	4	2	7	2	5	1	1	3	18	3
Coffey.	5	1	3	5	1	1	3	1	6	1	4	3	1	1	1	1	7	9
Comanche.	1	1	3	3	3	1	5	1	1	1	4	1	4	1	1	6	15	2
Cowley.	1	12	10	14	7	4	6	3	18	2	21	1	9	1	3	4	15	17
Crawford.	38	23	18	40	6	8	15	3	14	4	44	1	9	2	1	5	58	19
Decatur.	2	4	1	3	2	2	2	2	1	3	4	3	1	1	1	1	1	1
Dickinson.	9	6	5	10	4	1	4	2	8	3	8	3	3	1	1	5	17	17
Doniphan.	2	9	6	4	6	1	4	1	4	3	17	2	5	1	1	2	8	4
Douglas.	10	11	9	6	5	7	4	1	5	2	3	2	6	1	1	1	15	14
Edwards.	3	3	1	1	2	1	2	1	3	1	2	1	3	1	1	1	4	3
Ellis.	3	3	2	4	2	1	1	1	5	1	5	1	1	1	1	1	2	4
Ellsworth.	3	4	1	1	1	1	2	1	3	1	6	1	1	1	1	2	18	7
Finn.	1	1	5	3	4	2	1	1	1	1	2	1	1	1	1	1	9	2
Ford.	1	1	3	3	1	1	1	1	4	1	2	1	1	1	1	1	10	6
Franklin.	1	17	3	6	13	2	4	2	5	1	23	6	1	1	2	1	7	18
Geary.	3	3	5	4	3	1	1	1	3	1	4	1	1	1	1	1	15	13

TABLE No. 4, Part 2.—Vital statistics reported to the Kansas State Board of Health—Concluded.

COUNTIES.	Broncho-pneumonia...	Pneumonia.....	Other diseases respiratory system.....	Diarrhea and enteritis (under 2 years)...	Diarrhea and enteritis (2 yrs. and over)	Appendicitis...	Diseases of the liver and adnexa.....	Peritonitis.....	Other diseases, digestive system.....	Acute nephritis.	Bright's disease.	Other diseases, genito-urinary system.....	The purpural state.....	Diseases of the skin, etc.....	Diseases of the bones, etc.....	Malformations..	Diseases of early infancy..	Old age.....
Phillips.....	4	1	3	4	4	1	3	..	4	1	4	3	3	2	1	..	4	5
Pottawatomie.....	2	11	3	3	2	..	2	..	5	1	5	2	1	..	..	2	11	14
Pratt.....	5	3	2	5	..	..	1	..	2	1	..	..	..	..	..	4	4	4
Rawlins.....	1	3	4	1	..	..	1	..	1	..	..	..	..	..	..	8	4	2
Reno.....	9	17	7	29	12	5	18	4	8	2	22	8	9	1	..	..	41	12
Republic.....	3	5	6	3	2	..	7	..	2	1	3	2	2	1	..	2	12	15
Rice.....	5	4	2	13	3	2	4	..	7	1	7	2	1	..	..	5	9	8
Riley.....	3	10	5	8	3	1	4	..	4	1	11	3	1	2	..	3	7	18
Rooks.....	3	5	3	4	3	..	1	..	2	2	3	3	1	..	..	7	6	2
Rush.....	1	3	4	7	..	..	1	..	1	..	3	4	1	1	..	..	5	3
Russell.....	2	1	2	3	2	1	..	..	2	3	6	2	6	..	..	1	15	5
Saline.....	2	12	3	6	3	2	5	..	7	..	7	1	1	..	..	3	14	11
Scott.....	1	1	1	1	1	..	..	..	1	1	1	1	1	..	..	2	2	1
Sedgwick.....	33	38	19	34	10	11	25	5	18	7	49	14	6	1	2	11	53	23
Seward.....	1	1	6	1	..	..	1	1	1	1	1	1	1	..	..	2	2	1
Shawnee.....	33	49	19	30	10	15	13	10	23	8	70	6	13	3	1	7	43	53
Sheridan.....	2	1	1	1	1	2	..	..	1	1	2	..	..	..	..	..	1	..
Sherman.....	2	1	1	1	1	1	..	..	3	1	3	..	..	..	..	..	2	5
Smith.....	6	5	6	4	2	2	1	1	1	1	4	1	1	..	..	2	10	5
Stafford.....	1	1	2	9	..	..	1	1	5	..	4	5	3	1	..	..	15	7
Stanton.....	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..
Stevens.....	2	..	..	..	..	..	..	..	1	1	2	..	..	..	..	..	1	..
Sumner.....	9	16	4	16	1	2	3	1	3	1	15	3	1	..	1	3	13	6
Thomas.....	..	..	1	..	..	..	..	..	1	1	..	..	1	..	..	1	1	3
Trego.....	2	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wabunsee.....	3	3	2	11	2	4	1	..	1	2	4	..	2	..	..	..	5	5
Wallace.....	3	8	2	2	..	..	..	..	3	..	..	..	3	..	..	..	11	4
Washington.....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wichita.....	8	3	2	5	5	10	..	..	7	3	12	2	3	..	..	1	11	12
Wichita.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wilson.....	10	7	1	9	5	2	3	1	5	3	11	3	1	..	..	1	17	9
Woodson.....	1	6	2	5	3	..	3	..	1	1	6	..	3	..	..	1	9	6
Wyandotte.....	86	69	35	67	13	13	27	6	33	13	71	15	9	5	..	25	108	29

TABLE NO. 5.—DEATHS (EXCLUSIVE OF STILLBIRTHS) BY SEX, COLOR, NATIVITY, CONJUGAL CONDITION AND AGE FROM CERTAIN CAUSES, FOR THE YEAR 1912.

DISEASE.	Total.	Male.	Female.	White.	Black.	Native.	Foreign.	Unknown.	Single.	Married.	Widowed.	Divorced.	Unknown.	Under 1.	1-2.	3-5.	6-10.	11-15.	16-20.	21-25.	26-30.	31-35.	36-40.	41-45.	46-50.	51-60.	61-70.	71-80.	81-90.	91-100.	
Typhoid fever.....	345	204	139	310	35	308	31	6	176	150	15	1	3	2	4	14	25	38	42	47	49	36	15	15	11	20	20	7			
Smallpox.....	3	2	1	3	3	3			1	1				1	1	1															
Measles.....	60	25	30	55	4	60			56	2	1			15	28	9	2	1	1	1	1	1				1					
Scarlet fever.....	154	82	72	141	12	156			153	3				112	28	13	3	4	3	1	1										
Whooping cough.....	121	72	49	117	7	113	7	1	108	3				13	57	42	20	6		2	2										
Diphtheria.....	70	41	29	72	2	49	30	1	112	33	24	1		1	3	1															
Dysentery.....	3	2	1	3		3			1	1																					
Pellagra.....	910	538	462	892	108	780	109	21	395	449	93	14	23	7	6	3	3	17	72	153	111	110	93	66	52	96	78	1	42	7	
Tuberculosis of lungs.....	25	15	12	13	9	20	6		11	13				10	5	2	2	1	1	5	4	2	3	3	3	1	1				
Acute Miliary Q. B.....	45	27	21	24	8	7	44	1	32	11	1	1		10	5	2	2	1	1	5	4	2	4	4	2	2	2	2	2	1	1
Tubercular meningitis.....	56	33	27	29	48	8	48	6	2	22	7	2	1	2	1					5	7	9	8	4	1	2	10	2	1		
Abdominal tuberculosis.....	10	6	6	4	3	9			4	5										4	1	2	2								
Pott's disease.....	6	4	4	2	6				1	1				1						2	3	1	1	1	1	1	2	2	2	1	
White swelling.....	21	12	15	6	19	2	17	4	8	10	3			1					1	2	3	1	1	1	1	2	2	2	2	1	
Q. B. of other organs.....	12	8	3	9	3	11	1		3	11	4	4	1	1					1	2	1	4	1								
Disseminated Q. B.....	35	15	19	6	24	1	19	5	1	11	9	1		1					1	3	5	6	1	1	1	6	5	9	2		
Cancer, buccal cavity.....	470	278	226	244	452	18	344	121	5	28	308	116	7	11		1	1		1	3	5	6	1	1	25	40	116	140	96	21	2
Cancer, stomach-liver.....	123	73	58	65	130	3	99	23	1	13	79	29	2						1	2	8	5	7	2	8	25	41	23	2	1	
Cancer, intestines, etc.....	180	77		130	123	7	114	12	4	4	93	31	1	1						1	4	6	16	16	14	31	26	14	1	1	
Cancer, female genital organs.....	69	41	2	69	66	3	60	9	2	49	17			1					1		1	3	2	7	10	11	25	9	1		
Cancer, breast.....	3	2	1	3					2	1				2					1	3	4	2	2	8	11	20	36	64	52	28	3
Cancer, skin.....	296	140	154	231	45	186	45	6	23	153	58	3	2	2					1	6	6	6	2	2	8	9	13	26	10		
Cancer, other organs.....	145	85	70	76	134	11	120	23	2	74	28	3	5	2					11	10	7	6	9	18	18	42	161	253	262	113	14
Diabetes.....	227	134	130	97	225	2	178	47	2	55	129	35	3	1					4	6	11	4	2	2	8	9	13	26	10		
Cerebral hemorrhage.....	918	542	538	890	38	788	153	27	84	513	291	10	18	10	3	2	3	3	4	7	6	9	18	18	18	42	161	253	262	113	14
Paralysis.....	414	245	238	196	399	25	344	64	6	51	209	144	2	8					1	4	1	6	7	9	6	11	34	100	153	73	5
Organic heart disease.....	1436	850	841	1586	137	99	142	253	41	288	715	24	30	10	2	1	7	9	16	23	38	28	62	57	76	201	352	409	189	18	
Cancer of heart.....	578	340	298	523	517	58	535	83	7	474	61	38		2	298	146	9	3	1	4	1	3	3	2	4	15	13	47	13	4	
Bronchitis-pneumonia.....	770	456	613	357	709	61	696	119	25	176	362	207	10	15	18	11	14	20	13	35	20	28	30	33	25	31	92	149	163	87	2
Pneumonia.....	770	456	613	357	709	61	696	119	25	176	362	207	10	15	18	11	14	20	13	35	20	28	30	33	25	31	92	149	163	87	2
Diarrhea and enteritis, under two years.....	764	452	399	365	727	39	763	2	764					503	261																
Diarrhea and enteritis, over two years.....	253	150	133	130	236	17	214	32	7	101	97	54	1						3	8	9	5	3	6	5	8	13	30	58	27	3
Appendicitis.....	179	102	96	77	169	16	114	68	4	33	59	7	1	2					31	23	14	9	7	13	13	17	70	85	60	13	
Diseases liver & adnexa.....	309	13	163	146	294	15	237	68	4	83	199	68	8	3	4	2	5	5	6	8	10	16	21	25	40	44	145	251	259	94	2
Bright's disease.....	966	545	563	573	763	68	752	166	18	87	575	232	3	11	4	2	2	2	2	14	25	23	20	20	20	20	33	19	14	2	1
Suicides.....	207	122	1164	43	200	7	115	27	3	16	51	27	3	14					2	8	13	9	10	12	8	4	5	7	8		
Homicides.....	32	4	68	19	57	25	65	10	7	26	37	7	9	5					1	6	7	8	6	4	5	4	5	7	2		
Other violence.....	961	568	740	221	906	55	764	134	43	453	349	114	9	46	52				54	67	69	78	61	45	48	43	73	72	70		

TABLE No. 6.—SHOWING POPULATION, DEATHS, BIRTHS AND RATES, BY COUNTIES, (STILLBIRTHS NOT INCLUDED) FOR THE YEAR 1912

COUNTIES.	Popula- tion, U.S. census, 1910. . .	Deaths...	Death rate per 1000...	Births...	Birth rate per 1000...	Deaths, infants under one year.	Infant mortal- ity per cent. . .
Totals.....	1,680,949	17,183	10.16	88,006	22.47	2,804	7.4
Allen.....	27,640	261	9.5	480	17.4	31	6.5
Anderson.....	13,329	133	10.0	254	18.4	19	7.5
Atchison.....	23,107	268	9.4	415	14.8	31	7.5
Barber.....	9,916	78	7.8	241	24.1	11	4.5
Barton.....	17,876	167	9.3	547	30.6	33	6.1
Bourbon.....	24,007	268	19.5	489	30.4	31	6.4
Brown.....	21,314	213	10.0	478	22.4	27	5.7
Butler.....	23,069	188	8.0	530	23.0	31	5.9
Chase.....	7,527	52	7.0	191	25.6	11	5.8
Chautauqua.....	11,429	112	9.8	264	23.2	18	6.8
Cherokee.....	38,162	469	12.3	957	25.1	101	10.6
Cheyenne.....	4,248	26	6.2	75	18.0	8	10.6
Clark.....	4,098	39	9.5	136	23.2	10	7.3
Clay.....	15,251	121	7.9	387	25.3	21	6.4
Cloud.....	18,388	188	10.2	509	27.7	36	7.1
Coffey.....	15,205	150	9.9	258	17.0	17	6.6
Comanche.....	3,381	29	8.8	134	40.9	5	3.7
Cowley.....	31,790	358	11.1	618	19.4	41	6.6
Crawford.....	51,178	656	12.6	1,274	24.9	140	11.0
Decatur.....	8,976	59	6.6	126	14.0	5	4.0
Dickinson.....	24,361	235	9.6	601	24.6	38	6.8
Doniphan.....	14,422	125	8.7	377	26.2	24	3.7
Douglas.....	24,724	270	10.9	358	15.5	30	10.6
Edwards.....	7,083	49	7.0	193	27.6	7	3.6
Elk.....	10,128	87	8.7	214	21.4	10	4.7
Ellis.....	12,170	112	9.2	468	38.4	32	6.8
Ellsworth.....	10,444	91	8.8	290	27.9	20	6.9
Finney.....	6,908	62	9.0	146	20.9	15	10.3
Ford.....	11,332	135	11.8	403	35.4	17	4.2
Franklin.....	20,884	257	12.3	446	21.3	24	5.4
Geary.....	12,681	110	8.7	233	23.3	23	8.1
Gove.....	6,044	30	5.0	116	19.3	5	4.8
Graham.....	3,700	55	6.8	199	22.9	11	5.5
Grant.....	1,087	7	6.4	17	15.6	1	5.9
Gray.....	3,121	23	9.0	95	30.8	4	4.2
Greeley.....	1,335	8	6.2	20	15.4	1	5.0
Greenwood.....	16,060	126	7.8	365	22.2	11	3.0
Hamilton.....	3,360	23	6.8	61	18.0	0	0.0
Harper.....	14,748	112	7.6	369	25.1	19	5.1
Harvey.....	19,200	188	9.8	472	24.6	30	6.4
Haskell.....	998	4	4.0	27	27.2	1	3.7
Hodgeman.....	2,980	22	7.6	84	29.0	5	6.0
Jackson.....	16,361	152	9.0	339	20.0	31	9.2
Jefferson.....	15,325	130	11.4	338	21.4	26	7.7
Jewell.....	18,148	165	9.1	398	21.7	34	8.7
Johnson.....	18,288	198	10.9	331	18.2	29	8.8
Kearny.....	3,206	18	5.6	47	14.7	4	8.5
Kingman.....	13,336	108	8.1	223	16.6	27	12.1
Kiowa.....	6,174	52	8.4	211	34.0	17	8.1
Labette.....	31,423	357	11.8	676	21.5	46	6.8
Lane.....	2,608	12	4.6	53	20.4	1	1.9
Leavenworth.....	41,207	526	12.8	592	14.4	57	9.6
Lincoln.....	10,142	79	7.8	277	27.4	20	7.2
Linn.....	14,735	147	10.0	364	24.8	25	6.9
Logan.....	4,240	27	6.4	59	14.0	6	10.2
Lyon.....	24,927	266	10.6	516	20.6	30	5.8
Marion.....	22,415	201	9.0	611	27.2	35	5.7
Marshall.....	23,830	203	8.4	544	22.8	33	6.1
McPherson.....	21,521	187	8.7	506	23.5	34	6.7
Meade.....	5,055	40	7.9	139	27.5	13	9.4

TABLE No. 6.—Showing population, deaths, etc.—*Concluded.*

COUNTIES.	Popula- tion, U.S. census, 1910.....	Deaths....	Death rate per 1000.....	Births....	Birth rate per 1000.....	Deaths, in- fant under one year.	Infant mor- tality, per cent.
Miami.....	20,030	294	14.7	364	18.2	24	6.6
Mitchell.....	14,089	133	9.4	388	27.5	19	4.9
Montgomery.....	49,474	552	11.2	1,062	21.9	121	12.2
Morris.....	12,397	95	7.7	277	22.3	8	2.9
Morton.....	1,833	8	2.8	27	20.7	1	3.7
Nemaha.....	19,072	166	8.7	530	27.9	23	4.3
Neosho.....	23,764	259	10.9	593	25.1	42	7.0
Ness.....	5,833	31	5.3	156	26.4	7	4.6
Norton.....	11,614	82	7.1	225	19.4	11	4.9
Osage.....	19,906	177	8.8	383	19.1	16	4.2
Osborne.....	12,827	93	7.3	271	21.2	11	4.1
Ottawa.....	11,811	105	8.9	299	25.3	21	7.0
Pawnee.....	5,969	76	8.6	250	23.2	13	7.2
Phillips.....	14,150	87	6.1	253	17.8	8	3.2
Pottawatomie.....	17,522	123	7.3	358	20.4	18	5.0
Pratt.....	11,156	86	7.7	332	29.6	23	7.0
Rawlins.....	5,330	39	6.1	119	18.6	10	8.4
Reno.....	37,853	295	7.8	931	24.0	54	5.3
Republic.....	17,447	153	8.8	406	23.3	23	6.9
Rice.....	15,106	129	8.5	410	27.1	32	7.8
Riley.....	15,783	179	11.3	391	24.7	29	7.4
Rooks.....	11,232	87	7.7	234	25.1	11	3.9
Rush.....	7,326	64	8.2	200	25.6	17	8.5
Russell.....	10,800	94	8.7	233	23.2	30	10.6
Saline.....	20,338	181	9.1	461	23.1	22	4.8
Scott.....	3,047	25	8.2	40	13.1	5	12.5
Sedgwick.....	73,095	822	11.1	1,454	19.9	123	8.3
Seward.....	4,091	33	8.1	123	31.2	4	3.1
Shawnee.....	61,874	950	15.3	1,307	19.5	102	8.5
Sheridan.....	5,651	29	5.0	108	19.0	7	6.5
Sherman.....	4,549	29	6.4	77	17.0	0	0.0
Smith.....	15,365	115	7.5	400	26.0	22	5.5
Stafford.....	12,510	88	7.0	340	27.2	23	6.8
Stanton.....	1,034	5	5.0	7	7.0	0	0.0
Stevens.....	2,453	15	6.0	63	25.2	1	1.6
Sumner.....	30,654	240	7.8	676	22.0	41	6.1
Thomas.....	5,455	23	5.1	72	13.3	3	4.1
Trego.....	5,398	33	6.1	116	21.5	3	6.9
Wabaunsee.....	12,721	116	9.1	251	19.8	23	9.2
Wallace.....	2,759	11	4.0	38	13.8	3	7.9
Washington.....	20,229	160	7.9	479	23.7	22	4.6
Wichita.....	2,008	5	2.5	37	18.5	0	0.0
Wilson.....	19,810	202	10.2	570	28.3	40	7.0
Woodson.....	9,450	106	11.4	133	19.3	21	11.5
Wyandotte.....	100,068	1,602	16.0	2,274	22.6	239	12.7

TABLE No. 7. SHOWING SPECIFIC DEATH RATE PER 100,000 FROM TUBERCULOSIS, CANCER AND TYPHOID FEVER, BY COUNTIES, FOR THE YEAR 1912.

COUNTIES.	Popu- lation.....	Tuber- culosis..	Specific death rate.....	Cancer.....	Specific death rate.....	Typhoid fever.....	Specific death rate.....
Totals.....	1,680,949	1,085	64.1	1,066	62.5	345	20.3
Allen.....	27,640	14	58	12	43	8	29
Anderson.....	13,829	11	80	7	51	6	43
Atchison.....	23,107	12	43	16	56	6	21
Barber.....	9,916	6	56	5	51	2	20
Barton.....	17,876	8	46	14	78	9	50
Bourbon.....	24,007	13	54	11	46	11	46
Brown.....	21,314	11	52	15	70	3	14
Butler.....	23,059	10	43	14	61	1	4
Chas.....	7,527	6	80	4	53	1	18
Chautauqua.....	11,439	8	70	9	79	4	35
Cherokee.....	18,162	32	176	18	99	11	60
Cheyenne.....	4,243	1	24			2	48
Clark.....	4,098	2	49	2	49	1	24
Clay.....	15,251	8	52	9	59	2	18
Cloud.....	18,338	8	43	22	119		
Coffey.....	15,205	15	99	13	86	7	46
Cochran.....	3,221	1	30				
Cowley.....	81,790	25	31	26	32	10	12
Crawford.....	61,178	32	62	31	61	17	33
Decatur.....	8,976	2	22	7	78	3	33
Dickinson.....	24,361	20	82	16	66	2	3
Doniphan.....	14,422	7	49	7	49	1	7
Douglas.....	24,724	13	53	27	109	3	12
Edwards.....	7,083	2	29	4	57	1	14
Elk.....	10,128	8	79	5	50	1	10
Ellis.....	12,170	3	25	6	50	7	57
Ellsworth.....	10,444	6	58	9	57		
Finney.....	6,906	8	136	2	29		
Ford.....	11,393	10	88	5	44	2	17
Franklin.....	20,884	15	72	14	67	1	6
Geary.....	12,681	10	79	11	87		
Gove.....	6,044	1	17	1	17	1	17
Graham.....	8,700	4	46	1	11		
Grant.....	1,087						
Gray.....	3,121	3	97	2	66	1	32
Greeley.....	1,335			1	77	1	77
Greenwood.....	16,060	4	25	8	50	1	6
Hamilton.....	3,360	1	29				
Harper.....	14,748	2	14	8	54	4	27
Harvey.....	19,200	6	31	12	63	4	21
Haskell.....	993						
Hodgeman.....	2,980					1	34
Jackson.....	16,861	5	30	10	59	4	24
Jefferson.....	15,826	12	76	9	57	1	6
Jewell.....	18,148	9	50	10	55	4	22
Johnson.....	18,238	12	65	14	77	4	22
Kearny.....	8,206						
Kingman.....	18,896	3	22	12	90		
Kiowa.....	6,174	5	81	3	42	1	16
Labette.....	31,423	39	124	23	78	10	32
Lane.....	2,693						
Leavenworth.....	41,207	23	68	39	86	4	10
Lincoln.....	10,142	2	20	10	99	2	20
Linn.....	14,735	10	68	6	41	4	27
Logan.....	4,240	6	14	1	24		
Lyon.....	24,927	19	76	20	80	6	24
Marion.....	22,415	8	36	6	27	4	18
Marshall.....	23,880	6	33	14	59	5	21
McPherson.....	21,521	9	28	6	23	3	14
Meade.....	5,055			2	39	1	20

TABLE No. 7.—Showing specific death rate, etc.—*Concluded.*

COUNTIES.	Popu- lation....	Tuber- culosis....	Specific death rate.....	Cancer....	Specific death rate.....	Typhoid fever....	Specific death rate.....
Miami.....	20,080	21	105	7	35	4	20
Mitchell.....	14,069	6	43	8	57	2	14
Montgomery.....	49,474	35	71	20	40	11	22
Morris.....	12,397	5	40	7	56	1	8
Morton.....	1,333						
Nemaha.....	19,072	9	47	14	73	1	5
Nessaho.....	23,754	18	76	16	67	5	21
Ness.....	5,883			5	84	1	17
Norton.....	11,614	10	86	8	69		
Osage.....	19,906	6	30	11	55	2	10
Osborne.....	12,827	8	62	9	70	2	16
Ottawa.....	11,811	8	68	8	68	1	8
Pawnee.....	8,859	5	56	5	56	1	11
Phillips.....	14,150	5	35	5	35	1	7
Pottawatomie.....	17,522	4	23	8	46	1	6
Pratt.....	11,156	5	44	6	52	3	27
Rawlins.....	6,380			1	16		
Reno.....	37,853	24	63	22	53	7	18
Republic.....	17,477	6	34	11	63	1	6
Rice.....	15,106	6	40	11	73	3	20
Riley.....	15,783	13	82	11	70	1	6
Rooks.....	11,232	3	27	6	53	2	13
Rush.....	7,828	2	26	2	26	1	13
Russell.....	10,300	5	46	2	18	2	18
Saline.....	20,338	15	74	16	79	6	30
Scott.....	3,047	3	100			1	33
Sedgwick.....	73,096	52	71	52	71	21	28
Seward.....	4,091	2	49	2	49	1	25
Shawnee.....	61,574	73	118	58	94	14	23
Sheridan.....	5,651			1	18	2	35
Sherman.....	4,549	3	67	2	44	1	22
Smith.....	15,365	11	72			4	26
Stafford.....	12,510	2	16	3	24	2	16
Stanton.....	1,084			1	100		
Stevens.....	2,453			1	24	2	30
Sumner.....	30,654	12	39	17	55	6	19
Thomas.....	5,455	1	13	2	36	1	13
Trego.....	5,398			2	37		
Wabaunsee.....	12,721	4	31	6	47	1	8
Wallace.....	2,759			2	71	1	36
Washington.....	20,229	8	40	13	64	1	5
Wichita.....	2,006					1	50
Wilson.....	19,810	9	45	14	71	4	20
Woodson.....	9,450	5	53	3	32		
Wyandotte.....	100,068	165	165	84	84	33	33

TABLE No. 8.—SHOWING THE NUMBER OF BIRTHS BY SEX COLOR AND MONTH OF OCCURENCE, FOR THE YEAR 1913.

COUNTRIES.	Total births....	Male.....	Female.....	White.....	Colored....	Jan.....	Feb.....	March	April.....	May.....	June.....	July.....	Aug.....	Sep.....	Oct.....	Nov.....	Dec.....
Totals.....	35,382	18,057	17,325	34,502	880	3,054	2,892	3,022	2,887	2,692	2,588	3,121	3,167	3,012	3,166	2,906	2,985
Allen.....	489	252	237	470	19	39	37	38	38	30	35	56	51	37	52	43	44
Anderson.....	248	121	127	246	2	24	17	12	25	19	12	23	23	25	23	19	19
Atchison.....	433	212	221	411	17	41	34	32	37	34	25	40	29	30	32	37	42
Barber.....	227	110	117	223	1	20	13	32	41	16	14	17	19	13	25	23	13
Barton.....	484	273	221	480	4	38	45	51	47	41	38	43	42	41	34	51	23
Bourbon.....	464	231	233	443	16	35	33	34	44	25	33	43	55	32	35	46	47
Brown.....	467	234	233	443	19	39	34	42	32	41	33	45	47	35	38	42	34
Butler.....	232	110	122	226	2	44	34	39	39	30	40	39	36	35	33	36	42
Chase.....	212	110	102	206	6	25	15	14	13	12	17	25	12	9	20	23	21
Chautauqua.....	223	111	112	223	1	24	23	24	19	17	23	22	11	16	22	17	11
Cherokee.....	942	468	474	921	21	91	82	90	96	62	66	130	40	73	66	80	72
Cheyenne.....	123	71	52	123	...	3	12	8	4	14	14	6	13	16	13	12	7
Clark.....	131	63	78	131	...	11	8	17	12	8	11	10	16	9	14	8	8
Clay.....	308	146	162	300	8	29	25	24	20	25	30	32	22	24	30	21	25
Cloud.....	468	236	232	461	...	47	23	41	33	31	42	43	43	38	40	41	41
Coffey.....	235	161	124	235	...	21	22	17	24	15	22	15	23	40	25	26	20
Comanche.....	123	80	43	123	...	50	14	9	22	9	16	7	10	6	7	10	7
Cowley.....	645	325	320	638	9	50	70	64	46	43	42	60	54	47	54	51	64
Crawford.....	1,262	670	592	1,234	23	117	106	127	81	88	100	111	111	100	102	107	112
Decatur.....	1,147	54	63	1,147	...	12	12	14	8	13	11	11	12	16	13	13	12
Dickinson.....	543	262	281	539	4	56	35	43	49	35	45	43	47	41	51	50	49
Doniphan.....	329	162	167	314	16	30	30	29	23	26	32	33	33	23	36	21	18
Douglas.....	328	176	148	298	23	22	23	33	23	28	26	29	36	18	40	25	23
Edwards.....	167	84	83	166	1	20	25	16	13	12	5	13	8	14	15	14	12
Elk.....	220	113	107	220	...	25	20	25	21	13	14	14	12	17	18	21	20
Ellis.....	464	237	227	463	1	37	38	38	34	41	24	44	54	44	38	25	43
Ellsworth.....	265	131	134	263	2	15	31	16	23	16	23	21	21	23	23	27	20
Finney.....	111	63	48	106	5	10	10	9	8	6	8	10	14	9	10	11	6
Ford.....	345	172	173	337	8	28	22	25	31	24	21	41	29	23	33	21	47
Franklin.....	433	196	237	424	9	29	35	32	23	46	29	27	46	40	39	43	39
Geary.....	227	122	105	213	14	23	20	19	22	12	17	9	20	25	23	18	19
Gove.....	94	57	37	94	...	4	7	6	8	8	8	8	7	9	7	13	10

TABLE No. 8.—Showing the number of births, etc., for the year 1913—Concluded.

COUNTIES.	Total births...	Male.....	Female...	White....	Colored...	Jan.....	Feb.....	March...	April.....	May.....	June.....	July.....	Aug.....	Sep.....	Oct.....	Nov.....	Dec.....
Graham.....	169	80	79	144	16	11	14	22	12	7	12	14	14	11	11	20	11
Grant.....	13	9	4	12	1	1	6	6	2	1	1	2	1	1	6	4	11
Gray.....	63	33	30	62	1	3	2	1	3	4	2	8	2	8	3	3	3
Greeley.....	23	15	7	23	2	2	2	1	2	2	2	2	2	4	2	2	3
Greenwood.....	319	166	153	819	39	39	17	33	28	21	25	28	32	18	28	29	21
Hamilton.....	38	23	13	36	2	2	1	1	2	4	4	2	6	1	5	5	4
Harper.....	196	106	174	368	2	35	41	29	30	23	31	33	29	29	33	21	26
Harvey.....	467	244	223	462	16	40	41	44	46	37	38	36	41	38	38	31	36
Haskell.....	22	11	11	22	2	1	1	6	1	2	3	2	1	2	2	2	2
Hodgeman.....	89	43	38	80	8	8	4	7	8	4	7	9	7	6	15	6	4
Jackson.....	315	170	145	310	5	16	22	35	29	25	21	31	27	40	26	19	24
Jefferson.....	309	171	138	304	5	35	25	27	24	29	20	22	22	23	34	21	27
Jewell.....	408	197	206	403	12	36	30	31	34	33	33	35	35	38	45	23	23
Johnson.....	281	163	118	269	12	28	26	24	18	21	18	22	22	30	21	21	30
Kearny.....	56	24	32	56	7	7	4	6	8	3	1	4	3	7	3	4	6
Kingman.....	255	129	126	255	...	17	20	16	14	10	10	30	32	29	27	27	23
Kiowa.....	186	87	99	186	...	19	15	14	12	18	9	13	13	25	16	11	16
Labette.....	613	324	289	671	42	49	64	63	42	55	41	52	41	56	50	50	50
Lane.....	52	22	30	52	...	2	2	6	6	4	2	6	6	6	3	3	6
Leavenworth.....	581	292	289	545	36	41	36	51	51	44	33	54	53	54	74	35	55
Lincoln.....	278	135	133	272	1	20	23	24	25	25	18	18	23	19	27	25	25
Linn.....	313	170	143	307	6	23	31	30	19	10	17	18	24	23	31	31	34
Logan.....	57	28	29	53	5	5	2	1	5	5	3	2	3	3	6	8	9
Lyon.....	492	253	234	482	10	47	49	44	41	31	53	39	33	44	51	29	46
Marion.....	560	283	277	557	3	51	55	52	35	45	37	43	53	44	56	40	44
Marshall.....	204	216	204	420	...	31	28	42	32	33	22	44	43	42	41	29	33
McPherson.....	468	219	239	457	1	47	45	44	36	41	39	44	23	35	39	37	23
Meade.....	155	76	80	153	2	14	13	11	14	12	12	14	22	9	16	9	9
Monroe.....	313	154	159	305	8	26	25	24	29	22	21	35	23	23	25	29	26
Mitchell.....	297	149	148	297	...	30	30	18	14	14	20	24	23	23	29	24	32
Montgomery.....	897	442	455	851	46	73	63	74	77	79	55	75	71	57	92	80	66
Morris.....	271	139	132	269	2	22	26	17	30	27	13	21	30	21	23	21	25

Morton	11	5	6	11	2	49	35	39	37	31	88	1	82	41	2	1	42	47	1	6
Nemaha	490	251	259	488	17	45	40	43	43	48	87	57	87	60	51	42	44	48	48	49
Neosho	528	276	252	511	11	11	9	12	12	17	7	7	8	16	18	5	6	8	11	51
Ness	121	64	57	121	19	19	16	22	16	11	17	17	11	15	18	26	13	13	16	16
Norton	200	108	92	200	6	37	33	37	31	42	35	35	27	37	33	44	33	33	27	27
Oaaga	416	212	204	410	15	15	17	39	14	18	24	24	26	26	17	22	22	17	20	20
Osborne	246	119	127	246	21	21	18	20	31	21	23	23	18	24	21	23	18	18	22	22
Ottawa	271	145	126	271	17	17	16	23	17	13	14	14	21	16	22	19	14	14	15	15
Pawnee	207	112	96	205	16	16	23	15	22	16	10	10	19	13	15	26	23	23	22	22
Phillips	225	115	110	225	20	20	22	40	23	24	21	21	33	41	42	22	31	31	29	29
Pottawatomie	348	171	177	348	1	13	19	16	23	21	12	12	24	18	13	14	10	10	17	17
Pratt	239	114	125	238	1	9	7	12	12	8	10	10	10	14	13	14	10	10	7	7
Rawlins	126	65	61	126	15	76	65	72	53	82	68	68	78	85	85	86	77	71	98	98
Reno	910	450	460	895	18	18	36	33	30	43	30	30	36	35	31	23	23	13	27	27
Republic	364	179	185	364	31	31	29	26	41	23	21	21	23	34	19	23	29	29	33	33
Rice	337	171	166	336	6	43	33	38	34	48	24	24	39	33	21	35	34	34	29	29
Riley	328	171	157	322	6	36	34	26	22	18	20	20	29	29	33	27	23	23	31	31
Rooks	265	139	156	263	2	22	27	26	18	19	15	15	29	23	23	18	17	17	23	23
Rush	212	104	106	211	1	20	19	15	18	17	23	23	18	22	13	15	15	15	12	12
Russell	225	106	119	225	24	24	15	21	17	15	12	12	23	18	19	24	19	19	18	18
Saline	411	197	214	405	6	43	33	38	34	48	24	24	39	33	21	35	34	34	29	29
Scott	57	29	28	57	35	115	88	90	107	124	83	83	119	127	4	118	118	123	8	8
Sedgwick	1,300	655	645	1,265	7	6	7	9	7	5	7	7	9	10	13	9	12	13	108	108
Seward	107	56	51	107	109	127	90	78	102	110	102	102	117	110	109	91	108	108	88	88
Shawnee	1,232	622	610	1,123	6	6	5	4	10	11	6	6	8	16	9	7	4	4	7	7
Sheridan	93	42	51	93	7	7	7	5	9	6	8	8	13	10	13	32	32	32	5	5
Sherman	99	53	46	99	31	31	30	32	29	32	36	36	29	27	35	32	32	32	82	82
Smith	377	177	200	377	5	23	21	31	26	23	15	15	21	24	19	29	29	25	16	16
Stafford	232	139	143	277	8	8	1	1	1	1	1	1	1	1	1	2	2	2	1	1
Stanton	8	4	4	8	2	2	6	10	6	7	1	1	3	3	4	3	3	3	4	4
Stevens	53	29	23	52	7	59	53	61	61	52	47	47	65	57	49	69	64	64	61	61
Sumner	672	359	313	665	1	7	3	5	13	5	3	3	6	4	8	8	4	4	6	6
Thomas	65	25	40	64	1	15	3	6	9	4	11	11	13	14	8	12	13	15	12	12
Trego	112	64	48	111	9	20	20	29	18	10	13	13	14	24	22	22	23	23	23	23
Wabunsee	244	123	121	235	4	4	2	1	6	5	4	4	5	8	4	2	2	1	3	3
Wallace	44	25	19	44	35	35	33	36	40	33	44	44	38	57	35	37	37	37	38	38
Washington	477	258	219	477	1	1	2	2	2	2	2	2	2	1	5	1	1	1	2	2
Wichita	21	9	12	21	46	46	33	36	33	29	41	41	39	50	45	43	43	37	37	37
Wilson	468	251	217	468	17	17	12	14	14	8	16	16	11	25	15	19	14	14	16	16
Woodson	173	85	85	173	116	185	164	209	173	173	137	137	194	205	217	185	185	165	165	165
Wyandotte	2,250	1,166	1,064	2,134	116	185	164	209	173	173	137	137	194	205	217	185	185	165	165	165

TABLE No. 9.—HOWING THE NUMBER OF DEATHS BY SEX, COLOR, SOCIAL CONDITION AND NATIVITY, FOR THE YEAR 1913.

COUNTIES.	Deaths...	Male.....	Female...	White.....	Indian....	Chinese...	Black.....	Single....	Married...	Widowed..	Divorced..	Unknown..	Native....	Foreign...	Unknown..
Totals.....	17,861	9,697	8,164	16,703	25	.....	1,133	6,763	7,237	3,534	143	184	14,992	2,593	346
Allen.....	232	145	117	246	.....	.....	16	99	107	45	7	4	235	25	2
Anderson...	127	73	54	122	.....	.....	6	36	56	36	1	2	108	15	3
Atchison...	295	163	142	246	.....	.....	49	107	102	73	.....	2	248	44	8
Barber.....	77	39	38	76	.....	.....	1	37	26	12	.....	.....	57	6	4
Barton.....	188	87	101	178	.....	.....	10	84	73	31	.....	.....	153	33	4
Bourbon...	252	136	116	223	.....	.....	19	94	109	48	1	.....	222	24	6
Brown.....	166	75	91	154	4	.....	2	59	62	44	1	.....	148	17	1
Butler.....	178	99	79	176	.....	.....	8	63	71	41	.....	3	165	13	.....
Chase.....	65	32	33	64	.....	.....	1	24	23	17	.....	1	86	9	.....
Chautauqua	59	47	52	98	1	.....	.....	36	45	17	1	.....	96	3	.....
Cherokee...	491	280	211	467	.....	.....	24	206	187	89	8	1	431	54	6
Cheyenne...	29	21	8	29	.....	.....	.....	14	10	4	.....	1	24	5	.....
Clark.....	27	19	8	27	.....	.....	.....	17	4	8	2	1	25	2	.....
Clay.....	149	71	78	145	.....	.....	4	44	72	30	.....	3	111	35	3
Cloud.....	208	119	89	208	.....	.....	.....	81	85	37	2	3	173	34	1
Coffey.....	158	100	58	156	.....	.....	2	43	77	34	2	2	137	21	.....
Comanche	33	19	14	33	.....	.....	.....	12	14	6	.....	.....	31	2	.....
Cowley.....	361	189	162	342	1	.....	8	138	147	60	4	2	327	20	4
Crawford...	704	410	294	675	.....	.....	29	345	283	88	7	1	562	186	4
Decatur....	59	31	28	59	.....	.....	.....	17	25	16	.....	.....	52	7	.....
Dickinson	210	121	89	208	.....	.....	2	67	108	33	.....	2	165	43	2
Doniphan...	138	68	70	121	.....	.....	17	58	62	32	.....	.....	123	13	2
Douglas...	287	160	187	231	7	.....	49	79	136	68	1	3	241	42	4
Edwards...	60	34	26	57	1	.....	2	30	23	6	.....	1	48	11	1
Elk.....	85	44	41	85	.....	.....	.....	24	51	10	.....	.....	81	4	.....
Ellis.....	104	47	57	104	.....	.....	.....	69	30	11	1	3	90	22	2
Ellsworth...	117	52	65	113	.....	.....	4	39	39	86	.....	3	77	33	7
Finney.....	79	46	33	73	.....	.....	6	39	29	10	1	.....	76	4	.....
Ford.....	148	85	63	147	.....	.....	1	54	70	23	.....	1	127	17	4
Franklin...	245	130	115	236	.....	.....	9	79	169	52	1	4	205	33	7
Geary.....	113	66	47	105	.....	.....	8	47	41	22	2	1	85	24	4
Gove.....	35	21	14	34	.....	.....	1	14	15	5	.....	.....	33	3	.....

Graham.....	55	25	30	45	1	.....	9	30	18	5	7	1	1	61	4	.....
Grant.....	5	4	1	5	.....	.....	.....	3	3	1	1	.....	.....	2	3	.....
Gray.....	18	9	9	17	.....	.....	1	12	4	1	.....	.....	18	.....	.....	.....
Greedy.....	8	5	3	8	.....	.....	.....	5	5	.....	.....	.....	17	.....	.....	.....
Greenwood.....	128	64	64	128	.....	.....	.....	47	54	24	2	.....	114	12	2	.....
Hamilton.....	17	11	6	16	.....	.....	1	3	9	5	.....	.....	13	2	2	.....
Harper.....	133	68	65	131	.....	.....	2	53	59	20	.....	.....	118	12	3	.....
Harvey.....	217	127	90	209	.....	.....	3	76	96	49	.....	.....	169	45	2	.....
Haskell.....	4	2	2	4	.....	.....	.....	3	.....	1	.....	.....	.....	.....	.....	.....
Hodgeman.....	28	14	14	28	.....	.....	2	17	8	3	.....	.....	23	2	.....	.....
Jackson.....	156	90	66	145	.....	.....	3	56	72	27	1	.....	139	17	.....	.....
Jefferson.....	191	101	90	183	.....	8	3	61	73	55	1	.....	146	24	.....	.....
Jewell.....	160	75	70	160	.....	.....	8	56	54	86	2	.....	135	13	2	.....
Johnson.....	212	114	98	193	.....	.....	19	72	81	54	.....	.....	181	27	4	.....
Kearny.....	22	13	9	22	.....	.....	.....	12	6	4	.....	.....	19	3	.....	.....
Kingman.....	77	41	36	77	.....	.....	.....	31	32	12	.....	.....	69	7	1	.....
Kiowa.....	63	27	28	63	.....	.....	.....	28	17	7	.....	.....	50	3	.....	.....
Labette.....	412	241	171	365	.....	.....	47	160	170	91	1	.....	331	27	4	.....
Lane.....	17	10	7	17	.....	.....	.....	8	6	3	.....	.....	16	1	.....	.....
Leavenworth.....	500	231	219	438	.....	.....	62	175	175	139	2	.....	379	101	20	.....
Lincoln.....	99	53	41	98	.....	.....	1	35	44	19	1	.....	90	19	.....	.....
Linn.....	159	82	77	153	.....	.....	6	48	77	38	.....	.....	147	10	.....	.....
Linn.....	20	11	9	17	.....	.....	3	12	5	3	.....	.....	16	3	1	.....
Logan.....	296	149	147	284	.....	.....	12	94	132	66	3	.....	247	47	2	.....
Lyon.....	208	117	91	208	.....	.....	.....	94	79	31	1	.....	142	63	3	.....
Marion.....	214	119	95	212	.....	.....	2	62	105	45	2	.....	153	57	2	.....
Marshall.....	222	113	109	222	.....	.....	.....	83	96	48	2	.....	123	32	2	.....
McPherson.....	47	21	26	47	.....	.....	.....	23	13	20	1	.....	41	5	1	.....
Meade.....	338	189	149	315	.....	.....	23	96	143	76	6	.....	296	39	33	.....
Mitchell.....	163	79	84	163	.....	.....	.....	56	66	39	1	.....	141	22	.....	.....
Montgomery.....	515	236	229	464	.....	.....	51	207	213	84	6	.....	478	30	7	.....
Morris.....	120	70	50	118	.....	.....	2	45	50	22	1	.....	101	17	2	.....
Morton.....	7	5	2	7	.....	.....	4	1	1	.....	.....	.....	7	.....	.....	.....
Nemaha.....	169	98	76	167	.....	.....	2	72	63	32	.....	.....	145	32	2	.....
Neosho.....	263	129	134	254	.....	.....	9	88	103	68	.....	.....	235	25	3	.....
Ness.....	54	31	23	54	.....	.....	.....	34	16	12	.....	.....	47	7	.....	.....
Norton.....	90	43	47	90	.....	.....	.....	34	33	15	1	.....	77	10	3	.....
Osage.....	196	100	96	191	.....	.....	4	55	90	47	3	.....	146	46	3	.....
Osborne.....	121	71	50	118	.....	.....	3	38	48	32	.....	.....	108	14	4	.....
Ottawa.....	108	62	46	107	.....	.....	1	43	37	26	1	.....	79	23	1	.....
Pawnee.....	86	53	33	84	.....	.....	2	33	32	15	.....	.....	76	8	2	.....
Phillips.....	96	43	43	95	.....	.....	1	32	41	21	1	.....	77	15	1	.....

TABLE No. 9.—Showing the number of deaths by sex, etc.—Continued.

COUNTIES.	Deaths...	Male.....	Female...	White....	Indian...	Chinese...	Black....	Single....	Married...	Widowed.	Divorced..	Unknown.	Native...	Foreign...	Unknown.
Pottawatomie.....	142	78	69	138	1	.....	3	45	63	33	1	.....	101	40	1
Pratt.....	92	54	38	87	.....	.....	5	40	32	17	.....	3	88	2	2
Rawlins.....	48	28	15	43	.....	.....	.....	22	16	4	.....	1	29	14	.....
Reno.....	355	190	165	324	.....	.....	21	130	156	58	5	6	319	30	6
Republic.....	170	90	80	170	.....	.....	.....	52	68	47	2	1	135	29	.....
Rice.....	121	69	52	120	.....	.....	1	38	61	21	.....	1	109	10	2
Riley.....	148	85	63	139	.....	.....	9	52	63	21	1	1	116	31	1
Rock.....	83	40	43	82	.....	.....	1	45	23	10	.....	1	76	6	.....
Rush.....	71	32	39	71	.....	.....	.....	43	16	10	1	.....	50	21	1
Russell.....	95	50	45	95	.....	.....	.....	42	34	13	.....	1	73	22	.....
Saline.....	202	109	93	194	.....	.....	8	75	85	40	.....	2	142	59	1
Scott.....	17	7	10	17	.....	.....	.....	9	5	3	.....	.....	14	3	.....
Sedgwick.....	790	425	365	743	1	.....	46	250	345	175	5	5	688	87	15
Seward.....	41	19	22	41	.....	.....	.....	21	8	8	2	.....	36	8	2
Shawnee.....	1,064	577	487	923	.....	.....	141	382	431	224	17	10	832	117	65
Sheridan.....	24	14	10	24	.....	.....	.....	11	10	2	.....	1	21	2	1
Sherman.....	36	15	21	36	.....	.....	.....	14	14	8	.....	.....	29	7	.....
Smith.....	108	61	47	107	.....	.....	1	41	47	17	2	1	94	12	2
Stafford.....	126	64	62	123	.....	.....	3	55	52	17	2	.....	111	15	.....
Stanton.....	9	4	5	9	.....	.....	.....	6	1	2	.....	.....	8	1	.....
Stevens.....	5	3	2	5	.....	.....	.....	3	1	1	.....	.....	5	.....	.....
Sumner.....	246	131	115	211	.....	.....	5	84	103	49	1	4	222	13	6
Thomas.....	31	12	19	31	.....	.....	.....	14	8	8	.....	1	26	4	1
Trego.....	16	10	9	16	.....	.....	.....	7	9	3	.....	.....	15	4	.....
Wabunsee.....	100	59	41	92	.....	.....	3	43	39	14	1	3	79	20	1
Wallace.....	14	6	8	14	.....	.....	.....	6	7	.....	.....	1	11	3	.....
Washington.....	207	114	93	207	.....	.....	.....	71	83	49	3	1	144	62	1
Wichita.....	8	.....	2	8	.....	.....	.....	6	1	1	.....	.....	7	1	.....
Wilson.....	231	130	101	229	.....	.....	2	98	94	37	1	1	208	19	4
Woodson.....	53	50	43	53	.....	.....	.....	36	44	17	.....	.....	73	15	.....
Wyandotte.....	1,644	907	737	1,524	.....	.....	320	712	613	255	16	13	1,376	240	23

TABLE No. 10.—SHOWING THE NUMBER OF DEATHS BY AGE, FOR THE YEAR 1918.

COUNTIES.	Under 1.	1-2.....	3-5.....	6-10	11-15....	16-20....	21-25....	26-30....	31-35....	36-40....	41-50....	51-60....	61-70....	71-80....	81-90....	Above 90.....	Un- known.
Totals.....	8,112	848	352	363	318	479	629	618	599	640	1,227	1,694	2,503	2,884	1,483	188	11
Allen.....	38	13	7	3	4	8	5	7	11	13	11	24	38	52	22	6	
Anderson.....	18	1	2	2	1	6	6	3	1	3	8	10	24	27	16	1	
Atchison.....	13	1	2	1	10	9	12	10	9	8	25	37	34	51	27	5	
Barber.....	19	5	2	2	2	1	3	4	3	.....	6	6	11	10	6		
Baron.....	41	17	3	5	3	8	8	5	6	.....	15	11	24	23	10		
Bourbon.....	47	5	3	4	4	4	9	4	6	9	19	31	40	45	16	2	
Brown.....	80	8	2	1	2	8	6	5	8	9	17	17	29	27	16	1	
Buena.....	80	5	2	2	7	.....	6	7	6	2	15	21	27	23	17	3	
Butler.....	10	2	2	5	.....	.....	3	2	1	6	.....	.....	9	7	6	1	
Chase.....	19	6	2	3	2	4	8	5	4	3	7	6	14	19	6	.....
Chautauqua.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cherokee.....	116	34	10	10	11	9	15	10	13	24	19	54	66	62	30	2	
Cherokee.....	8	.....	1	1	.....	.....	1	1	.....	.....	4	4	3	1	.....	.....
Clark.....	4	2	1	.....	3	3	2	2	.....	.....	13	2	31	3	1	.....
Clay.....	23	6	.....	.....	5	4	6	7	3	4	13	11	31	23	13	5	
Cloud.....	41	15	3	8	.....	.....	.....	.....	8	3	12	16	32	33	13	2	
Coffey.....	18	3	2	2	4	5	2	2	4	1	12	14	29	36	20	1	
Comanche.....	6	1	3	1	.....	.....	1	3	.....	1	2	3	5	6	1	.....
Cowley.....	55	17	4	14	2	12	15	16	20	14	18	29	50	51	32	3	
Crawford.....	153	63	22	24	15	19	21	25	33	34	46	47	89	96	33	2	1
Decatur.....	4	3	3	3	1	1	.....	2	2	2	1	10	11	7	9	.....
Dickinson.....	35	8	2	5	4	4	4	6	3	7	15	23	31	44	18	1	
Doniphan.....	24	5	6	4	2	4	4	1	5	4	3	17	15	23	14	2	
Douglas.....	15	7	3	4	3	17	15	10	6	15	20	23	45	63	29	9	
Edwards.....	13	5	2	1	3	4	4	2	1	5	2	5	7	7	8	.....
Elk.....	14	1	1	1	1	5	2	4	6	1	5	9	11	16	7	.....
Ellis.....	37	11	1	1	.....	.....	3	2	3	4	12	5	9	6	7	1	
Ellsworth.....	18	4	3	2	.....	2	4	3	3	4	6	8	22	28	11	.....	1
Finney.....	19	9	2	3	.....	2	2	5	4	1	4	6	11	8	3	.....
Ford.....	26	8	5	4	2	3	6	4	4	4	5	15	27	22	12	1	
Franklin.....	30	10	4	2	7	7	9	17	8	6	12	21	29	51	29	2	1
Geary.....	17	6	4	2	2	6	4	3	4	4	5	12	21	18	5	.....
Gove.....	4	4	.....	.....	2	.....	1	1	.....	.....	5	4	6	4	2	1	
Graham.....	15	6	2	2	2	1	3	1	2	.....	2	3	6	10	3	.....
Grant.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

TABLE No. 10. — Showing the number of deaths by ages for the year 1913 — Concluded.

COUNTIES.	Under 1.	1-2	3-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-50	51-60	61-70	71-80	81-90	Above 90	Un-known.
Gray.....	4	5	1	1	1	1	2	1	1					1	1		
Greeley.....	1	5	6	3	1	5	6	2	4	2	6	7	26	28	11	2	
Greenwood.....	16	2	1	3	3	2	6	4	3	3	8	1	16	28	8	2	
Hamilton.....	2	9	1	3	3	2	4	4	2	4		14	16	28	6		
Harper.....	80																
Harvey.....	36	4	5	2	1	11	7	5	6	6	15	26	45	34	12	2	
Haskell.....	3														1		
Hodgeman.....	9	2		1	1	3	1	4	5	5	2	1	8	4	1		
Hodgeman.....	29	7	1	2	3	4	6	4	6	7	15	16	18	28	13		
Jackson.....	29	7	1	2	3	4	6	4	6	7	15	16	18	28	13		
Jefferson.....	35	9	3	4	1	1	3	7	3	7	10	15	28	30	32	3	
Jewell.....	35	8	5														
Johnson.....	32	4	4	8	2	1	1	3	8	8	7	13	17	34	13	2	
Johnson.....	32	4	4	8	2	1	1	3	8	8	7	13	17	34	13	2	
Kearny.....	5	1															
Kingman.....	22	3	2	2	1	2	2	2	3	1	7	2	9	50	18	4	
Kiowa.....	17	4	4		1		4		3	1		3	8	8	10		
Labette.....	60	14	8	10	6	11	6	17	12	19	37	52	69	61	28	2	
Lane.....	7																
Lane.....	65	14	15	8	10	12	23	18	19	20	42	35	77	98	47	6	
Leavenworth.....	17	3	5	1	1	4	2	3	4	5	3	10	13	27	7		
Lincoln.....	23	4	1	3	4		3	3	4			16	29	37	20	4	
Linn.....																	
Logan.....	4	1	1	1	3					2	1	1		3	1	1	
Lyon.....	8	8	3	2	3	9	9	9	8	15	15	23	50	54	34	3	
Marion.....	50	14	6	3	4	6	6	6	7	2	10	24	28	27	19	1	
Marshall.....	32	7	1	4	3	2	9	4	8	4	13	24	24	44	26	4	
McPherson.....	34	11	9	2	5	5	5	4	6	6	10	22	28	51	22	2	
Meade.....	13	3	2														
Miami.....	23	4	3	1		4	1		2	2	2	3	3	4	8		
Miami.....	23	4	3	1		4	1		2	2	2	3	3	4	8		
Mitchell.....	26	5	5	3	5	4	11	11	15	19	38	53	63	47	37	3	1
Montgomery.....	109	23	18	10	10	17	19	17	17	22	32	50	75	30	31	14	1
Morris.....	25	8	2	2		2	4	3	2	4		18	24	9	2		
Morton.....	1																
Morton.....	1																
Nemaha.....	33	8	6	6	1	2	5	5	4	6	9	11	26	28	17	1	
Neosho.....	46	10	2	4	9	2	15	7	15	6	10	23	35	59	19	1	
Neosho.....	17																
Norton.....	17	4	1	2			4	3	2	2	7	8	6	6	9		
Norton.....	17	4	1	2			4	3	2	2	7	8	6	6	9		
Osage.....	26	10	3	4	2	6	2	2	6	4	8	16	33	43	26	4	

Osborne.....	20	5	4	1	1	2	2	4	4	3	4	4	7	13	20	16	14	3	.....
Ottawa.....	22	8	1	2	4	2	2	5	6	4	4	1	2	8	19	20	9	2	.....
Fawcett.....	19	7	2	1	.....	4	4	4	5	4	2	2	5	8	11	7	7	.....	.....
Phillip.....	10	5	3	4	5	3	4	3	4	4	2	2	6	4	13	21	14	1	.....
Pottawatomie.....	14	13	4	.....	4	1	1	3	3	2	2	2	8	13	18	31	20	1	.....
Pratt.....	25	3	.....	1	2	3	3	.....	1	6	2	2	6	9	11	10	8	3	.....
Rawlins.....	11	5	4	1	.....	.....	.....	.....	20	14	20	15	4	4	3	8	2	.....	1
Reno.....	60	16	6	11	3	8	8	3	6	7	3	2	23	42	31	49	30	1	1
Republic.....	19	6	3	1	3	3	3	3	7	3	3	.....	7	18	23	33	19	2	1
Rice.....	30	5	2	8	.....	.....	.....	.....	6	7	3	.....	8	10	16	31	7	.....	1
Riley.....	18	6	1	4	1	1	4	4	4	6	7	6	4	18	22	27	18	2	.....
Rooks.....	28	5	2	2	1	2	2	4	4	4	3	3	3	7	6	11	4	1	.....
Rush.....	23	6	4	1	4	2	2	2	2	2	2	1	1	3	10	7	3	.....	.....
Russell.....	23	9	3	3	1	1	3	3	6	4	2	4	4	6	11	9	13	.....	.....
Salina.....	30	5	5	8	5	7	7	.....	6	6	5	10	10	13	34	34	21	3	.....
Scott.....	4	1	1	.....	.....	2	2	.....	1	1	.....	1	2	.....	2	2	.....	.....	.....
Sedwick.....	111	20	5	15	7	23	30	31	35	36	31	85	75	92	103	115	62	13	.....
Seward.....	11	2	.....	2	.....	2	6	3	3	4	4	8	2	4	3	1	4	1	.....
Shawnee.....	133	47	20	15	16	25	28	41	53	39	41	173	100	119	173	153	72	9	1
Sheridan.....	4	3	.....	.....	2	.....	1	.....	.....	.....	.....	.....	1	7	3	2	1	.....	.....
Sherman.....	7	2	2	.....	.....	1	1	1	1	2	1	1	1	4	5	7	2	.....	.....
Smith.....	22	4	2	4	1	4	3	3	3	5	3	3	4	10	14	17	13	3	.....
Stafford.....	80	13	2	1	1	1	7	8	4	6	3	4	7	15	10	11	13	3	.....
Stanton.....	4	2	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	1	1	.....	2	.....	.....
Stevens.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sumner.....	40	11	4	5	3	8	2	6	11	10	6	20	11	25	30	51	25	4	.....
Thomas.....	3	1	.....	1	.....	2	2	1	1	1	1	1	3	2	4	5	6	.....	.....
Trego.....	3	1	.....	2	.....	1	1	.....	.....	.....	.....	.....	3	2	4	1	1	.....	.....
Wabunsee.....	16	5	1	3	3	5	3	1	2	3	1	2	2	2	13	13	9	2	.....
Wallace.....	2	3	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	2	.....	2	1	.....	.....
Washington.....	41	9	4	2	2	2	4	4	4	2	4	4	19	12	36	43	20	3	.....
Wichita.....	4	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Wilson.....	51	13	4	4	4	8	10	6	6	3	6	6	13	14	22	43	24	1	.....
Wood.....	14	2	2	4	.....	3	3	3	3	4	3	3	6	6	11	19	13	.....	.....
Wyandotte.....	235	89	23	35	37	64	87	82	83	92	82	83	132	108	179	143	61	13	1

TABLE No. 11.—SHOWING THE NUMBER OF DEATHS BY COUNTIES FROM VARIOUS CAUSES, FOR THE YEAR 1918.

COUNTIES.	Typhoid fever	Smallpox	Measles	Scarlet fever	Whooping cough	Diphtheria	Dysentery	Tuberculosis, all forms	Cancer, all forms	Rheumatism, all forms	Diabetes	Other general diseases	Meningitis	Cerebral hemorrhage	Paralysis	Other diseases nervous system	Organic heart disease	Other diseases circulatory system
Totals	342	4	102	53	122	137	26	1,063	973	159	223	599	183	909	451	509	1,427	522
Allen	10			1	2	1	2	12	10	4	1	11	1	14	13	3	21	6
Anderson	2							3	12	1		4	2	10	6	16		3
Atchison	6			3		1	2	25	11	3	4	4	3	24	5	7	16	11
Barber	1					1	1	5	2	4	4	3	2	7	2	2	17	5
Barton	2		2	1	1	4		5	9			10	1	6	5	6		7
Bourbon	6				1		2	20	12	3	3	14	1	10	10	6	17	6
Brown	4				1	2		9	9	1	3	7	3	8	3	5	11	6
Butler	4		2		1	1	1	10	12	4	3	7	3	11	4	5	16	10
Chase	3	1	1		1			4	3				1	6	2	2	6	1
Chautauqua	2		1				1	4	5	2	1	2	1	2	2	4	4	2
Cherokee	11		4	1	6	9	1	40	18	5	4	13	4	11	16	15	34	11
Cheyenne	1							1	1			1			2	2	4	
Clatsop					1			2	2		2	1			1			
Clay	4			1			1	6	5	2	4	4	2	7	2	3	15	3
Clovis	2		1		6	1		3	20	3	3	4	3	10	6	5	14	6
Coffey	6		1				1	9	16		2	3		4	12	5	9	3
Conance								1	1			2	1				2	1
Cowley	3		1		3	5		19	23	2	4	10	4	27	5	14	22	13
Crawford	22		3	10	1	23	1	35	36	4	2	19	9	29	8	19	37	13
Decatur								3	5	2	2	27	2	2	3		5	
Dekinson	4		1					14	16	2	3	7	2	11	2	9	17	6
Doniphan	1		1		2	2	1	9	12	1	4	3	4	9	1	6	13	7
Douglas	2		1	2		2		16	15	2	4	6	4	10	13	6	37	9
Edwards	3			2				4	6		1	1	2		3	2	9	2
Ellis	3							3	4	1	1	6		2	3	1	5	1
Ellis	3				2			3	9		2	6		4	1		4	1
Ellsworth	1		1					3	6					10	2	1	12	5
Finney	3		2		4			7			1	2		2	2	1	2	3
Ford	3		5	1		3		9	6	2	2	11		5	5	2	16	8
Franklin	2							13	11	5	5	10	1	16	4	1	13	4
Geary	2	1	1					3	8	1		8	3	4	1	4	11	4

TABLE No. 11.—Showing the number of deaths by counties—Continued.

COUNTIES.	Typhoid fever.....	Smallpox...	Measles.....	Scarlet fever.....	Whooping cough.....	Diphtheria..	Dysentery..	Tubercu- losis, all forms.....	Cancer, all forms..	Rheuma- tism, all forms.....	Diabetes....	Other gen- eral dis- eases.....	Meningitis..	Cerebral hemor- rhage.....	Paralysis...	Other diseases nervous system....	Organic heart disease....	Other diseases circulatory system....
Phillips.....	1				3	1	1	4	7	1	1	2	2	5	3	4	11	2
Pottawatomie.....			1		2	1	1	3	7	1	3	5	2	3	1	5	20	3
Pratt.....	1				1	1	1	4	4	1	1	6	2	5	2	5	7	2
Rawlins.....			2					23	1	3	2	1	3		15	4	3	3
Reno.....	11			3	1	5			20	2	2	15	3	17	15	5	23	9
Republic.....	3		2					2	10		1	8	2	10	7	3	15	10
Rice.....	3		3	1	2			5	7	3	4	5	2	9	3	4	7	4
Riley.....	3		3			1		11	11	1	4	5	2	12	3	4	11	6
Rooks.....	2		1		1	1		6	3	3	1	2	1	1	1	2	6	1
Rush.....	1		1	1	3	4		3	3	1	1	2		2		1	3	1
Russell.....	4		1					2	6	1		1		3	4	2	6	3
Saline.....	2		1			1		16	10			6	1	16	4	4	11	9
Scott.....	2		2		1													
Sedgwick.....	14		2		2	2		45	67	2	11	29	3	39	25	15	72	29
Seward.....	1		1					2				3			1		2	
Shawnee.....	14		3	1	9	9	2	77	55	8	14	38	7	52	29	52	113	31
Sheridan.....			1					4						5			3	1
Sherman.....			1		1	1		2		1	1	2	2	1	4	1	3	2
Smith.....	1							5	5	1	1	3	1	7	4		3	2
Stafford.....	4				3			5	6		1	4	1	8		2	7	2
Stanton.....														1				
Stevens.....			2	1		3	1	10	3	2	2	3	2	9	6	1	23	15
Sumner.....	4							3	2	1			1		1	4	3	2
Thomas.....								1	3									
Trego.....								2	1		1	2			2		1	
Wabasha.....								4	4		3	5		5	3	2	9	4
Wallace.....						1											1	1
Washington.....				1	3			7	8	3	1	6	4	14	9	6	13	8
Wichita.....																		
Wilson.....	9	1		1	4	2	1	21	10		1	6	4	12	5	6	13	5
Woodson.....	3			1	1	1		8	2	3	4	2	1	3	3	4	6	4
Wyandotte.....	28	1	22	3	11	8		190	67	17	16	43	34	58	17	38	114	37

TABLE No. 11, Part 2.—VITAL STATISTICS REPORTED TO THE KANSAS STATE BOARD OF HEALTH FOR THE YEAR 1913.

COUNTIES.	Totals.....	667	887	353	931	416	220	314	91	431	90	1,065	260	227	64	19	261	1,311	960
Allen.....	7	15	8	2	10	6	2	3	2	7	1	18	4	3	1	...	5	16	19
Anderson.....	4	7	2	2	7	2	...	3	...	...	1	2	2	2	...	...	4	6	9
Atchison.....	15	14	7	5	13	2	...	4	1	3	1	26	1	1	1	...	3	17	13
Barber.....	4	11	1	1	15	3	...	1	1	...	...	...	4	2	...	...	2	6	4
Barton.....	8	13	6	9	18	1	...	4	...	2	1	1	2	4	...	1	5	10	10
Bourbon.....	8	13	6	9	18	1	...	4	...	2	1	15	2	...	...	...	6	20	24
Brown.....	8	13	6	9	18	1	...	4	...	2	1	1	2	...	...	...	5	16	16
Butler.....	8	13	6	9	18	1	...	4	...	2	1	13	4	4	...	...	3	13	17
Chase.....	3	3	1	2	3	1	...	...	...	1	1	9	4	1	...	...	12	6	9
Chautauque.....	1	1	1	1	3	1	...	...	...	...	...	4	...	...	...	...	2	8	...
Cherokee.....	35	23	14	1	27	11	...	5	2	3	1	10	7	2	...	...	3	8	...
Cheyenne.....	2	1	...	...	...	...	...	1	...	1	...	33	...	...	...	...	8	16	...
Clark.....	1	1	...	...	1	4	...	...	...	1	...	1	1	...	...	...	...	...	4
Clay.....	3	6	...	...	10	4	...	5	...	4	...	13	3	...	...	...	4	9	7
Cloud.....	13	9	6	6	16	5	...	1	2	4	1	5	...	4	...	...	5	12	11
Coffey.....	5	6	2	1	8	2	...	...	1	...	...	15	...	2	...	...	...	7	14
Comanche.....	1	2	...	...	3	...	...	1	...	...	...	...	...	...	...	...	...	2	3
Cowley.....	17	13	8	17	14	9	...	8	1	11	1	18	6	6	...	...	3	27	14
Crawford.....	45	28	17	73	15	10	...	15	5	14	3	40	6	2	...	...	6	54	23
Decatur.....	7	10	5	6	7	6	...	3	...	1	1	7	...	1	...	...	3	6	6
Dickinson.....	6	5	3	7	6	1	...	3	1	3	...	16	1	1	...	...	4	17	9
Doniphan.....	6	5	3	7	6	1	...	3	...	3	...	9	...	...	...	...	2	9	2
Douglas.....	10	15	6	7	7	7	...	3	1	7	1	20	4	7	2	...	5	19	19
Edwards.....	1	1	1	1	1	...	...	...	...	...	...	6	1	1	...	...	2	3	2
Ellis.....	3	3	4	5	5	3	...	1	...	3	...	6	1	2	...	...	5	27	5
Ellsworth.....	9	7	3	5	5	2	...	2	1	3	1	3	1	1	...	...	1	23	4
Fancy.....	3	2	4	4	3	1	...	1	...	...	...	...	...	...	...	...	2	6	8
Ford.....	3	2	4	4	3	1	...	1	...	...	...	...	...	...	...	...	1	7	5
Franklin.....	2	2	2	2	1	...	...	2	1	1	1	2	...	...	...	...	1	9	6
Geary.....	4	4	6	6	6	4	...	5	1	3	2	20	3	3	1	...	1	14	23

TABLE NO. 11, Part 2.—Vital statistics reported to the Kansas State Board of Health—Continued.

COUNTIES.	Broncho-pneumonia..	Pneumonia.....	Other diseases re- spiratory system....	Diarrhea and enteritis (under 2 years).....	Diarrhea and enteritis (2 years and over)...	Appendicitis.....	Diseases of the liver and adnexa.....	Peritonitis.....	Other diseases digestive system....	Acute nephritis	Bright's disease	Other diseases genito- urinary system.....	The puerperal state...	Diseases of the skin, etc.	Diseases of the bones, etc.	Malformations.....	Diseases of early infancy.....	Old age.....
Gove.....	5	1	1	2	1	2			2		1	1	1				1	1
Graham.....	3	3	1		1				1		5		2				2	2
Grant.....	1	1											1			1	1	1
Gray.....			2															
Greeley.....	1		2					1										
Greenwood.....	1	12	5	1	4	1	1				8		3			2	9	7
Hamilton.....																	1	1
Harper.....	2	9	1	1	2	3	5			1	7	2	1			5	13	6
Harvey.....	7	7	3	3	5	6	5	1	3		16	5	1	1		2	17	5
Haskell.....	1																2	
Hodgeman.....	3	3	1	1		1	1		1		9		2			1	6	3
Jackson.....	8	9	3	1	9		1		5		20	2	3		1	11	3	3
Jefferson.....	10	9	10	4	5		3			2	6	1	3	1		2	12	15
Jewell.....	7	11	3	3			3				13	1	1	1		3	17	15
Johnson.....	7	12	6	9		3							1			3	10	23
Kearny.....	1										2		1			1		1
Kingman.....	2	3	2						1		5					3	3	7
Kiowa.....	1	6	1		2					1	1		2			3	1	1
Labette.....	14	17	4	4	12	4	7	2	7	2	19	6	1	1		11	24	16
Lane.....			1		1							1				9	6	1
Leavenworth.....	9	29	11	21	13	5	12	3	9	3	29	13	6			2	35	34
Lincoln.....	2	1	1	4			3	2	2	1	10	1	1			1	11	10
Linn.....	2	16	3	5		3	7		3		6	3	1			4	12	10
Logan.....		1	2	1				1			1						3	2
Lyon.....	3	12	3	17	7	8	5	4	7	2	18	7	4			6	16	23
Marion.....	9	10	3	14	5		4	1	10		9	1	4		1	5	24	8
Marshall.....	6	6	1	10	5		2	2	6		15	6	3		1	4	12	16
McPherson.....	5	5	5	19	9	3	4	3			10	6	1			2	11	17
Meade.....	2	2	1	2					2		2	1	1	1		3	3	3
Miami.....	2	21	7	6	12	2	7	3	7		20	3	2			1	12	19

Mitchell.....	4	7	7	7	7	4	1	6	2	5	1	8	2	1	3	3	11	9
Montgomery.....	15	12	6	5	4	5	7	9	12	3	11	29	10	8	3	4	43	18
Morris.....	6	6	5	4	4	5	6	2	4	5	5	6	1	1	1	5	7	10
Morton.....	8	4	2	10	1	5	5	5	6	8	8	6	2	3	2	2	18	15
Nemaha.....																		
Neosho.....	6	6	2	17	5	5	3	2	1	9	1	12	4	2	4	1	19	15
Ness.....	1	1	3	4	4	4	4	4	4	4	4	4	4	4	4	1	8	4
Norton.....	5	5	6	4	6	4	9	1	3	1	6	18	8	3	2	1	7	4
Osage.....	5	4	3	2	5	5	3	1	2	3	6	5	3	1	1	2	18	5
Osborne.....	5	4	3	2	5	5	3	1	2	3	6	5	3	1	1	2	9	9
Ottawa.....	5	2	3	9	3	3	1	2	1	6	5	12	4	2	1	2	8	7
Pawnee.....	6	4	1	5	3	3	3	3	1	4	1	4	1	2	1	1	3	14
Phillips.....	4	5	2	2	2	2	2	2	1	3	1	4	1	2	1	1	3	10
Pottawatomie.....	2	5	5	5	5	5	5	5	1	3	1	6	1	3	1	9	8	3
Pratt.....	6	2	2	8	1	1	1	1	2	3	6	1	3	1	1	2	9	8
Rawlins.....	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	1	8	3
Reno.....	13	16	3	17	5	14	4	2	2	11	1	33	5	4	1	4	30	17
Republic.....	8	8	4	6	3	4	1	1	1	4	1	12	2	2	1	3	11	17
Rice.....	7	3	1	4	4	3	2	2	1	2	1	8	2	2	1	4	5	6
Riley.....	2	2	5	1	3	3	4	2	2	10	4	4	2	2	2	4	7	13
Rooks.....	5	1	2	4	4	1	1	1	2	1	2	5	1	2	1	5	16	6
Rush.....	1	1	3	5	6	2	1	1	2	1	2	2	2	1	1	2	10	1
Russell.....	8	2	7	6	2	2	3	3	1	3	3	4	1	4	1	1	9	6
Saline.....	6	10	7	4	3	3	3	2	2	6	1	18	2	5	3	19	15	5
Scott.....	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2	1	1
Sedgwick.....	20	33	18	23	16	25	17	12	12	23	6	51	17	7	3	6	60	22
Seward.....	2	1	3	3	1	2	1	1	1	2	2	2	3	3	1	3	8	2
Shawnee.....	27	70	12	52	18	9	21	12	12	26	5	83	11	8	1	4	56	53
Sheridan.....	3	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1
Sherman.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Smith.....	6	3	2	10	1	3	1	3	1	3	3	9	3	3	1	1	5	10
Stafford.....	11	9	1	5	3	2	2	2	1	2	2	7	3	3	4	4	16	7
Stanton.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1
Stevens.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1
Sumner.....	8	14	1	7	12	1	6	1	1	3	2	21	2	4	2	5	25	17
Thomas.....	4	4	1	1	1	1	1	1	1	1	1	2	1	1	1	1	2	4
Trego.....	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	3	3
Wabaunsee.....	2	2	1	5	2	2	2	2	2	1	1	2	1	2	3	4	3	4
Wallace.....	2	2	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1
Washington.....	11	7	8	3	2	2	8	2	2	2	2	13	3	1	1	4	18	13
Wichita.....	1	1	3	3	1	3	1	1	1	1	1	12	1	2	2	3	1	1
Wilson.....	6	17	7	16	4	3	3	1	1	1	1	2	3	2	4	8	22	16
Woodson.....	1	1	1	8	3	2	5	2	5	5	5	2	3	2	1	4	9	9
Wyandotte.....	83	108	34	89	31	16	17	5	5	36	16	90	84	20	4	28	104	41

TABLE No. 11, PART 3.—SHOWING THE NUMBER OF DEATHS BY COUNTIES FROM VARIOUS CAUSES FOR THE YEAR 1913.

COUNTIES.	COUNTIES.					COUNTIES.					COUNTIES.																
	Totals.	Allen.	Anderson.	Acheson.	Barber.	Barton.	Bourbon.	Brown.	Butler.	Chase.	Chautauque.	Cherokee.	Cheyenne.	Clark.	Clay.	Cloud.	Coffey.	Comanche.	Cowley.	Crawford.	Decatur.	Dickinson.	Doniphan.	Douglas.	Edwards.	Elk.	Ellis.
Ill-defined diseases.....	185	104	82	221																							
Homicides.....	2	15	4																								
Accidents.....	3	21	11																								
Suicides.....	2	8	2																								
Linn.....	2																										
Logan.....	3																										
Lyons.....	8																										
Marion.....	3																										
Marshall.....	3																										
McPherson.....	1																										
Meade.....	5																										
Miami.....	4																										
Mitchell.....	1																										
Montgomery.....	8																										
Morris.....	4																										
Morton.....	1																										
Nemaha.....	1																										
Neosho.....	4																										
Nes.....	2																										
Norton.....	3																										
Osage.....	18																										
Osborne.....	4																										
Ottawa.....	3																										
Pawnee.....	5																										
Phillips.....	1																										
Pottawatomie.....	11																										
Pratt.....	3																										
Rawlins.....	2																										
Reno.....	1																										
Republic.....	1																										
Rice.....	1																										
Riley.....	1																										
Rock.....	1																										
Rush.....	2																										
Russell.....	4																										
Saline.....	10																										
Scott.....	1																										
Sedgewick.....	7																										
Seward.....	4																										
Shawnee.....	14																										
Sheridan.....	1																										
Sherman.....	7																										
Smith.....	2																										
Stafford.....	1																										
Stanton.....	1																										
Stevens.....	3																										
Sumner.....	3																										
Thomas.....	1																										
Trego.....	1																										
Wabunsee.....	1																										
Wallace.....	4																										
Washington.....	2																										
Wichita.....	1																										
Wilson.....	1																										
Woodson.....	1																										
Wyandotte.....	23																										

TABLE No. 12.—DEATHS (EXCLUSIVE OF STILLBIRTHS) BY SEX, COLOR, NATIVITY, CONJUGAL CONDITION AND AGE FROM CERTAIN CAUSES, FOR THE YEAR 1913.

DISEASE.	Total.	Male.	Female.	White.	Black.	Native.	Foreign.	Unknown.	Single.	Married.	Widowed.	Divorced.	Unknown.	Under 1...	1-2.	3-5.	6-10.	11-15.	16-20.	21-25.	26-30.	31-35.	36-40.	41-45.	46-50.	51-60.	61-70.	71-80.	81-90.	91-100.	Above 100.		
Typhoid fever.....	342	19	40	322	20	296	45	1	183	129	5	11	4	6	13	16	20	33	49	55	34	18	19	20	11	19	18	10	1	1	1	1	
Smallpox.....	4	23	2	3	1	3	5	1	3	1	2	1	1	19	35	17	10	5	4	4	2	2	1	1	1	1	1	1	1	1	1	1	
Measles.....	102	5	90	56	30	52	3	1	51	3	2	1	1	9	10	15	6	6	4	4	2	2	1	1	1	1	1	1	1	1	1	1	
Scarlet fever.....	53	3	94	33	20	52	3	1	51	3	2	1	1	9	10	15	6	6	4	4	2	2	1	1	1	1	1	1	1	1	1	1	
Whooping cough.....	122	6	90	58	64	114	8	120	120	3	2	1	1	68	40	9	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	
Diphtheria.....	137	7	50	61	134	3	135	2	131	6	2	1	1	18	23	42	27	5	2	2	2	1	1	1	1	1	1	1	1	1	1	1	
Pneumonia.....	26	1	12	14	25	1	25	1	11	6	9	2	1	5	4	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Tuberculosis—lungs.....	908	51	60	445	756	152	318	87	3	317	478	86	19	7	4	2	15	15	9	121	135	123	116	60	46	86	64	33	1	1	1	1	
Acute miliary tuberculosis.....	26	1	50	11	45	20	6	24	1	12	12	2	1	6	3	3	3	3	1	6	3	2	1	1	1	1	1	1	1	1	1	1	
Tubercular meningitis.....	25	1	40	15	9	20	5	23	1	17	7	1	1	6	5	3	3	3	1	6	3	2	1	1	1	1	1	1	1	1	1	1	
Abdominal tuberculosis.....	76	4	30	40	36	63	13	63	7	1	1	1	1	1	5	6	6	6	11	5	5	4	4	2	2	2	2	2	2	2	2	2	
Potitis disease.....	17	37	6	11	15	2	16	1	12	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
White swelling.....	7	40	5	2	6	1	7	1	2	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Tuberculosis, other organs.....	23	1	30	11	22	20	3	20	1	9	13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Disseminated tuberculosis.....	6	34	4	2	6	3	5	1	2	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Cancer, buccal cavity.....	17	37	13	4	15	2	9	8	1	10	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Cancer, stomach and liver.....	446	25	30	229	217	434	12	231	127	38	292	109	7	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Cancer, intestines, etc.....	110	6	30	53	103	103	4	92	17	1	63	33	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Cancer, female genital org.....	110	5	70	100	93	7	82	17	1	63	33	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Cancer, breast.....	86	4	11	2	86	77	9	72	1	50	80	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Cancer, skin.....	22	12	60	141	81	220	2	159	55	8	154	44	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Cancer, other organs.....	392	9	30	70	98	143	15	132	95	3	84	57	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Rheumatism, all forms.....	123	12	90	123	105	230	3	38	84	33	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Diabetes.....	559	51	40	527	339	373	3	711	184	74	533	986	3	5	5	2	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Cerebral Hemorrhag.....	461	25	60	247	264	425	36	360	14	39	249	162	12	23	11	2	4	13	15	20	24	35	45	59	61	234	353	570	139	12	2	2	
Paralysis.....	142	61	00	770	357	1382	36	1126	38	179	503	410	12	23	11	2	4	13	15	20	24	35	45	59	61	234	353	570	139	12	2	2	
Organic heart disease.....	857	33	00	355	311	627	40	630	34	3	578	52	37	2	1	387	133	27	11	1	1	1	1	1	1	1	1	1	1	1	1	1	
Broncho-pneumonia.....	837	47	50	435	394	763	74	683	126	13	216	336	210	9	7	40	26	14	22	33	38	23	30	40	36	97	156	150	88	6	2	2	
Pneumonia.....	837	47	50	435	394	763	74	683	126	13	216	336	210	9	7	40	26	14	22	33	38	23	30	40	36	97	156	150	88	6	2	2	
Diarrhea and enteritis under two years.....	331	52	30	478	453	870	61	922	9	331	654	277	1	654	277	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Diarrhea and enteritis over two years.....	416	23	50	190	226	391	25	341	70	5	170	147	96	4	2	75	45	19	6	2	5	12	7	9	9	12	17	48	95	47	6	6	
Appendicitis.....	220	12	50	130	90	211	9	201	15	4	118	89	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Diseases of liver and adnexa.....	316	17	80	141	174	306	9	243	63	9	31	206	73	5	1	7	2	3	7	1	3	5	11	23	20	16	57	63	56	14	4	4	
Bright's disease.....	1066	64	50	675	440	937	78	640	204	21	110	317	16	7	7	2	3	7	1	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Other violence.....	1004	59	01	755	249	955	48	816	147	41	454	374	127	11	38	61	46	56	60	58	79	75	65	57	49	50	75	74	80	51	13	13	
Homicides.....	82	4	60	70	12	61	21	54	20	8	27	41	1	9	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Other violence.....	1004	59	01	755	249	955	48	816	147	41	454	374	127	11	38	61	46	56	60	58	79	75	65	57	49	50	75	74	80	51	13	13	

TABLE No. 13 —SHOWING POPULATION, DEATHS, BIRTHS AND RATES BY COUNTIES FOR THE YEAR 1918. (STILLBIRTHS NOT INCLUDED.)

COUNTIES.	Population.	Deaths.....	Death rate per 1000.	Births.....	Birth rate, per 1000.	Deaths, Infants under one year.....	Infant mor- tality, per cent.
Totals.....	1,685,621	17,861	10.60	35,382	20.98	3,112	8.80
Allen.....	24,256	262	10.77	489	20.01	38	7.80
Anderson.....	12,571	127	10.01	248	19.67	18	7.80
Atchison.....	30,081	295	9.60	428	14.20	43	10.10
Barber.....	10,040	77	7.70	227	22.70	19	8.30
Barton.....	18,594	188	10.10	494	26.50	41	8.30
Bourbon.....	25,207	252	10.00	464	18.40	47	10.10
Brown.....	20,228	166	8.22	467	23.11	30	6.40
Butler.....	21,240	178	8.39	445	21.00	30	6.70
Chase.....	7,073	65	9.14	212	29.85	10	4.80
Chautauqua.....	10,887	99	9.08	229	21.00	19	8.30
Cherokee.....	38,885	491	12.62	942	24.20	116	12.30
Cheyenne.....	4,150	29	7.08	123	30.00	8	6.50
Clark.....	4,367	27	6.12	131	29.80	4	8.10
Clay.....	15,846	149	9.42	308	19.48	23	7.50
Cloud.....	19,346	208	10.80	468	24.20	41	8.80
Coffey.....	15,256	158	10.30	285	18.60	18	6.30
Comanche.....	4,189	33	7.90	123	29.80	6	4.90
Cowley.....	31,888	351	11.00	645	20.20	55	8.50
Crawford.....	51,170	604	11.90	1,262	24.60	163	12.90
Decatur.....	7,087	59	8.40	147	21.00	4	7.20
Dickinson.....	25,474	210	8.20	543	20.30	35	6.50
Doniphan.....	15,141	138	9.10	329	21.80	24	7.30
Douglas.....	25,615	287	11.20	326	12.70	15	4.60
Edwards.....	7,336	60	8.20	167	22.90	13	9.10
Elk.....	10,169	85	8.30	220	21.60	14	6.40
Ellis.....	12,758	104	8.10	464	36.20	37	8.00
Ellsworth.....	9,852	117	11.80	265	26.84	18	6.80
Finney.....	6,293	79	12.50	111	17.60	19	17.10
Ford.....	11,897	148	12.40	345	29.00	26	7.50
Franklin.....	21,076	245	11.60	438	20.50	30	7.00
Geary.....	10,100	113	11.20	227	22.50	17	7.50
Gove.....	4,291	35	8.10	94	21.80	4	4.30
Graham.....	8,028	55	6.90	159	19.90	15	9.50
Grant ①.....	920	5	5.50	13	14.50	2	15.40
Gray.....	3,068	18	5.70	63	20.80	4	6.30
Greeley.....	880	8	8.90	22	24.50	1	4.60
Greenwood.....	15,246	128	8.40	319	21.00	16	5.00
Hamilton.....	2,528	17	6.80	36	14.40	2	5.60
Harper.....	13,780	133	9.60	370	26.80	30	8.10
Harvey.....	19,269	217	11.20	467	24.20	36	7.70
Haskell ②.....	1,070	4	3.60	22	20.00	3	13.70
Hodgeman.....	3,044	28	9.30	80	26.60	9	11.30
Jackson.....	16,465	156	9.40	315	19.10	29	9.20
Jefferson.....	15,458	191	12.30	309	19.90	35	11.30
Jewell.....	17,006	150	8.80	403	23.70	36	8.68
Johnson.....	18,846	212	11.20	281	14.90	32	11.40
Kearny.....	2,447	22	9.20	56	23.30	5	9.00
Kingman.....	12,377	77	6.20	255	20.50	22	8.60
Kiowa.....	6,525	53	8.20	186	28.60	17	9.10
Labette.....	34,427	412	12.00	618	17.80	60	9.80
Lane.....	2,221	17	7.70	52	23.60	7	13.40
Leavenworth.....	40,331	500	12.40	581	14.40	65	11.20
Lincoln.....	10,168	99	9.70	273	26.80	17	6.20
Linn.....	16,133	159	9.90	313	19.40	23	7.80
Logan.....	8,222	20	6.20	57	17.80	4	7.00
Lyon.....	26,230	296	11.30	492	18.80	52	10.80
Marion.....	22,696	208	9.20	560	24.70	50	8.90
Marshall.....	22,633	214	9.10	420	18.60	32	7.60
McPherson.....	20,721	222	10.70	458	22.10	34	7.40
Meade.....	5,116	47	9.20	155	30.80	13	8.40

TABLE No. 13.—Showing population, deaths, births, etc.—*Concluded.*

COUNTIES.	Population.	Deaths.....	Death rate, per cent.	Births.....	Birth rate, per cent.	Deaths, in- fants un- der one year.....	Infant mor- tality, per cent.....
Miami.....	20,926	338	16.90	313	15.60	23	7.40
Mitchell.....	14,078	163	11.50	297	21.20	28	7.70
Montgomery.....	48,436	515	10.60	897	18.50	109	12.10
Morris.....	12,117	120	9.90	271	22.40	25	9.20
Morton③.....	1,582	7	4.00	11	6.90		
Nemaha.....	20,089	169	8.40	490	24.30	33	6.70
Neosho.....	22,829	263	11.50	523	23.20	46	8.70
Ness.....	6,113	54	8.90	121	19.90	17	14.10
Norton.....	10,264	90	8.70	200	19.60	17	8.50
Osage.....	20,422	195	9.50	416	20.40	26	6.30
Osborne.....	12,689	121	9.50	246	19.40	20	8.10
Ottawa.....	11,720	108	9.20	271	23.20	22	8.10
Pawnee.....	8,579	86	10.00	207	24.10	19	9.20
Phillips.....	13,172	96	7.30	225	17.00	10	4.40
Pottawatomie.....	16,778	142	8.50	348	20.70	14	5.10
Pratt.....	11,809	92	8.10	239	21.10	25	10.40
Rawlins.....	5,455	43	7.80	126	22.90	11	8.70
Reno.....	38,463	355	9.20	910	23.60	60	6.60
Republic.....	17,025	170	10.00	364	21.40	30	8.20
Rice.....	14,629	121	8.30	337	23.00	19	5.60
Riley.....	15,558	148	9.80	328	21.00	18	5.50
Rooks.....	10,625	83	7.80	265	25.00	26	10.00
Rush.....	7,952	71	8.90	212	26.50	23	10.90
Russell.....	11,362	95	8.30	225	19.70	23	10.20
Saline.....	20,852	202	9.60	411	19.60	30	7.60
Scott.....	2,354	17	7.10	57	23.80	4	7.00
Sedgwick.....	77,715	790	10.10	1,300	16.70	111	8.20
Seward.....	4,074	41	10.00	107	26.40	11	10.30
Shawnee.....	68,091	1,064	15.60	1,232	18.10	138	11.20
Sheridan.....	4,524	24	5.30	93	20.70	4	4.30
Sherman.....	4,183	36	8.60	99	23.50	7	7.10
Smith.....	15,661	108	6.90	377	24.00	22	5.80
Stafford.....	11,732	126	10.80	282	24.10	30	10.60
Stanton.....	696	9	12.90	8	11.50	4	50.00
Stevens④.....	2,201	5	2.30	52	23.60	2	8.80
Sumner.....	29,248	246	8.40	672	23.00	40	23.00
Thomas.....	3,704	31	8.40	65	17.60	6	9.20
Trego.....	4,390	19	4.30	112	25.40	3	2.70
Wabauaunsee.....	12,185	100	8.20	244	20.00	16	6.50
Wallace.....	2,184	14	6.40	44	20.00	2	4.80
Washington.....	20,007	207	10.30	477	23.80	41	8.60
Wichita.....	1,507	8	5.30	21	14.00	4	19.00
Wilson.....	18,708	231	12.30	468	25.00	51	10.90
Woodson.....	10,110	98	9.20	173	17.10	14	8.10
Wyandotte.....	106,080	1,644	14.70	2,250	21.40	295	13.10

1. Additional death reports too late for inclusion, making death rate 9.8.

2. Additional death reports too late for inclusion, making death rate 9.4.

3. Additional death reports too late for inclusion, making death rate 7.6.

4. Additional death reports too late for inclusion, making death rate 6.8.

TABLE No. 14.—SHOWING SPECIFIC DEATH RATE PER 100,000 FROM TUBERCULOSIS, CANCER AND TYPHOID FEVER, BY COUNTIES, FOR THE YEAR 1913.

COUNTIES.	Popula- tion....	Tubercu- losis....	Specific death rate....	Cancer....	Specific death rate....	Typhoid fever....	Specific death rate....
Totals.....	1,685,621	1,088	64.6	975	57.6	342	20.3
Allen.....	24,255	12	50	10	41	10	41
Anderson.....	12,571	8	63	12	95	2	16
Atchison.....	30,081	25	83	11	36	6	20
Barber.....	10,040	5	50	2	20	1	10
Barton.....	18,594	5	27	9	48	2	11
Bourbon.....	25,207	20	79	12	48	6	24
Brown.....	20,228	9	45	9	44	4	20
Eutler.....	21,240	10	47	12	57	4	19
Chase.....	7,073	4	56	3	42	3	42
Chautauqua.....	10,887	4	37	5	46	2	18
Cherokee.....	38,885	40	103	18	46	11	29
Cheyenne.....	4,150	1	24	1	24	1	24
Clark.....	4,367	2	45	2	45		
Clay.....	15,846	6	38	5	32	4	25
Cloud.....	19,346	8	41	20	108	2	10
Coffey.....	15,256	9	59	16	105	6	39
Comanche.....	4,189	1	24	1	24		
Cowley.....	31,888	19	60	22	96	8	25
Crawford.....	51,170	35	68	36	70	22	43
Decatur.....	7,087	3	43	5	72		
Dickinson.....	25,474	14	55	16	63	4	16
Doniphan.....	15,141	9	60	12	80	1	7
Douglas.....	25,615	16	62	15	59	2	8
Edwards.....	7,386	4	55	6	82	3	41
Elk.....	10,169	3	29	4	89	3	29
Ellis.....	12,758	3	23	9	70		
Ellsworth.....	9,852	3	30	6	61	1	10
Finney.....	6,293	7	111			3	48
Ford.....	11,897	9	76	6	50	2	17
Franklin.....	21,075	13	62	11	52	2	9
Geary.....	10,100	3	30	8	79	2	20
Gove.....	4,291			1	23	4	93
Graham.....	8,028			2	25	1	12
Grant.....	920	1	111				
Gray.....	3,068	1	32				
Greeley.....	890					1	113
Greenwood.....	15,246	3	20	3	20	5	33
Hamilton.....	2,528	1	45				
Harper.....	13,780	8	58	7	51	2	15
Harvey.....	19,269	13	67	20	108	2	10
Haskell.....	1,070						
Hodgeman.....	3,044						
Jackson.....	16,465	7	42	4	24	2	12
Jefferson.....	15,458	14	90	10	65	3	19
Jewell.....	17,006	3	18	6	35	1	6
Johnson.....	18,846	5	32	9	45	5	26
Kearny.....	2,447	3	125			2	8
Kingman.....	12,377	5	40	3	24	1	8
Kiowa.....	6,525	4	62	2	31		
Labette.....	34,427	23	81	30	87	14	41
Lane.....	2,221	1	45	1	45		
Leavenworth.....	40,331	33	94	18	45	4	10
Lincoln.....	10,168	4	39	8	77	3	29
Linn.....	16,183	11	68	6	37	1	6
Logan.....	3,222	1	31				
Lyon.....	26,230	21	80	15	57	6	23
Marion.....	22,686	6	24	14	62	4	18
Marshall.....	22,633	12	57	15	66	3	13
McPherson.....	20,721	8	38	25	121	2	10
Meade.....	5,116	1	20	4	78	2	39

TABLE No. 14. — Showing specific death rate, etc. — *Concluded.*

COUNTIES	Population..	Tubercu- losis.....	Specific death rate.....	Cancer.....	Specific death rate.....	Typhoid fever.....	Specific death rate.....
Miami.....	20,026	29	145	22	119	5	35
Mitchell.....	14,078	3	21	13	92	13	27
Montgomery...	48,436	30	62	22	46	1	8
Morris.....	12,117	8	66	5	41	1	5
Morton.....	1,582						
Nemaha.....	20,089	3	15	12	60	1	35
Neosho.....	22,329	22	97	17	74	8	39
Ness.....	6,113	1	16	3	49	4	5
Norton.....	10,264	7	68	5	48	1	39
Osage.....	20,422	6	29	8	39	1	5
Osborne.....	12,689	3	24	7	54	5	39
Ottawa.....	11,720	2	17	10	85	2	17
Pawnee.....	8,579	6	70	3	35	3	35
Phillips.....	13,172	4	30	7	53	1	8
Pottawatomie...	16,778	8	48	7	42		
Pratt.....	11,309	4	35	4	35	1	9
Rawlins.....	5,455	1	18	3	55		
Reno.....	33,463	23	60	20	52	11	29
Republic.....	17,025	2	12	10	59	3	18
Rice.....	14,629	5	34	7	48	3	21
Riley.....	15,558	4	26	11	64	3	19
Rooks.....	10,625	6	54	3	28	2	19
Rush.....	7,952			3	37	1	13
Russell.....	11,362	2	18	6	53	4	35
Saline.....	20,352	16	77	10	48	2	10
Scott.....	2,354					2	33
Sedgwick.....	77,715	48	60	67	86	14	18
Seward.....	4,074	2	49				
Shawnee.....	68,091	77	113	55	81	14	21
Sheridan.....	4,524			4	39		
Sherman.....	4,183	1	24	2	43		
Smith.....	15,661	5	32	5	32	1	6
Stafford.....	11,732	5	43	6	51	4	34
Stanton.....	696						
Stevens.....	2,201						
Sumner.....	29,248	10	34	8	27	4	14
Thomas.....	3,704	1	27	2	54		
Trego.....	4,390	2	45	1	23		
Wabaunsee.....	12,185	4	33	4	33	3	25
Wallace.....	2,184			1	45		
Washington.....	20,007	7	35	8	40	1	5
Wichita.....	1,507						
Wilson.....	18,703	21	112	10	53	9	48
Woodson.....	10,110	8	79	2	20	3	30
Wyandotte.....	105,060	190	180	67	64	28	27

DIRT IS DEADLY



There was a dirty man

And he kept a dirty town

He cared not a button
what was said, said, said



So disease came and
settled there

To make the town its own

And the dirty man was very
promptly dead, dead, dead

A city is as clean as its people.

* * *

Well kept alleys pay bigger dividends
than well kept cemeteries.

* * *

A man is known by the company he keeps

A town is known by the streets it sweeps.

* * *



Chicago Health Dept Educational Poster N°162.

Designed by Dr. G. B. Young

BULLETIN

OF THE

Kansas State Board of Health.

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S. J. CRUMBINE, M. D., Editor.

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APRIL, 1914.

VOL. X.

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Look well to your water supply!

Are you coming to the Summer School for Physicians and Health Officers?

In making spring repairs do not neglect to see that the well is made proof against surface drainage.

The "Town Clean-up" campaign is not only a popular innovation, but one that pays perpetual dividends in community health.

"Advice on longevity: Worry less, work more; ride less, walk more; drink less, breathe more; eat less, chew more; preach less, practice more."

The week beginning June 8 is a good time for you to take your vacation by attending the Summer School for Physicians and Health Officers at Rosedale.

"An official birth record is the best proof of legitimacy, of descent, of right to inherit, of age for schooling, for work, for voting, for marriage, and of citizenship."

A half-hour's work in your garden or yard each morning will do more towards restoring your working efficiency than a gross of blood purifiers, a bushel of pills, or a barrel of sassafras tea.

The hospital of the School of Medicine of the University of Kansas should be enlarged to accommodate the waiting list of patients, to the end that the state's sick and crippled may have prompt as well as skillful service.

MORBIDITY STATISTICS FOR FEBRUARY, 1914.

Number of Cases Reported to the State Board of Health.

COUNTIES.	Typhoid fever.	Diphtheria.	Scarlet fever.	Smallpox.	Measles.	Whooping cough.	Meningitis.	Pellagra.	Polionymyellitis.	Mumps.	Chicken pox.	Other communi- cable diseases
THE STATE.....	31	49	113	220	201	114	3	3	0	195	118	28
Allen.....	0	0	0	19	1	4	0	0	0	72	24	0
Anderson.....	0	0	0	11	1	0	0	0	0	0	0	0
Atchison, except Atchison city.....	0	0	0	2	1	0	0	0	0	0	0	0
Barber.....	0	0	0	0	0	0	0	0	0	0	0	0
Barton.....	0	0	11	3	0	0	0	0	0	0	0	0
Bourbon, except Fort Scott.....	0	2	0	0	0	0	0	0	0	0	0	0
Brown.....	1	0	0	0	1	4	0	0	0	0	0	0
Butler.....	2	1	2	2	0	0	0	0	0	0	0	0
Chase.....	2	0	2	0	1	1	0	0	0	1	0	0
Chautauqua.....	0	0	1	0	0	0	0	0	0	0	0	0
Cherokee.....	0	0	0	0	2	0	0	0	0	7	3	0
Cheyenne.....	0	0	0	0	0	0	0	0	0	0	0	0
Clark.....	9	0	0	0	0	0	0	0	0	0	0	0
Clay.....	0	0	2	0	0	0	0	0	0	0	0	0
Cloud.....	0	0	34	22	0	0	0	0	0	0	0	0
Coffey.....	0	0	1	9	6	0	0	0	0	0	9	0
Comanche.....	0	0	0	0	0	0	0	0	0	0	0	0
Cowley.....	0	0	0	0	0	0	0	0	0	0	0	0
Crawford, except Pittsburg.....	0	12	2	2	2	0	0	1	0	0	0	0
Decatur.....	1	2	1	12	0	0	0	0	0	0	0	0
Dickinson.....	0	0	0	0	0	1	0	0	0	0	0	0
Doniphan.....	0	0	0	0	0	0	0	0	0	0	0	0
Douglas.....	0	0	0	0	0	0	0	0	0	0	0	0
Edwards.....	0	4	7	1	9	0	0	0	0	0	2	0
Elk.....	0	0	1	0	0	0	0	0	0	0	0	0
Ellis.....	1	0	0	0	0	0	0	0	0	2	0	0
Ellsworth.....	0	0	0	0	0	0	0	0	0	0	0	0
Finney.....	0	0	0	3	0	0	0	0	0	0	0	0
Ford.....	0	0	0	0	0	0	0	0	0	0	0	0
Franklin.....	1	2	7	2	0	0	0	0	0	0	0	0
Geary.....	0	0	0	0	0	0	0	0	0	0	0	0
Gove.....	0	0	0	0	0	0	0	0	0	0	2	0
Graham.....	0	0	0	0	0	0	0	0	0	0	0	0
Grant.....	0	0	0	8	0	0	0	0	0	0	0	0
Gray.....	0	0	0	0	0	0	0	0	0	0	0	0
Greeley.....	0	0	0	0	0	1	0	0	0	0	0	0
Greenwood.....	0	0	0	0	0	0	0	0	0	0	0	0
Hamilton.....	1	0	2	0	1	1	0	0	0	0	4	0
Harper.....	0	0	0	0	0	0	0	0	0	0	0	0
Harvey.....	0	0	0	0	2	2	0	0	0	2	1	0
Haskell.....	0	0	0	0	0	0	0	0	0	0	0	0
Hodgeman.....	0	0	0	0	0	0	0	0	0	0	0	1
Jackson.....	0	0	2	0	0	0	0	0	0	0	0	0
Jefferson.....	0	1	0	0	0	0	0	0	0	0	0	0
Jewell.....	0	0	0	0	0	0	0	0	0	0	0	0
Johnson.....	0	0	0	0	0	0	0	0	0	0	0	0
Kearny.....	0	0	0	0	0	8	0	0	0	0	0	0
Kingman.....	0	0	0	0	0	0	0	0	0	0	0	0
Kiowa.....	0	0	0	0	0	0	0	0	0	0	0	0
Labette, except Parsons.....	1	1	3	6	2	0	0	0	0	0	0	0
Lane.....	0	0	0	0	0	0	0	0	0	1	0	0
Leavenworth, except Leavenworth city..	0	0	0	0	0	7	0	0	0	0	0	0
Lincoln.....	2	2	2	0	2	7	0	0	0	0	4	0
Linn.....	0	1	0	8	11	0	0	0	0	1	0	4
	0	0	0	0	0	0	0	0	0	0	0	0
	0	1	0	1	0	0	0	0	0	0	0	0

COUNTIES.	Typhoid fever...	Diphtheria.....	Scarlet fever...	Smallpox.....	Measles.....	Whooping cough.....	Meningitis.....	Pollagra.....	Poliomyelitis....	Mumps.....	Chicken pox....	Other communicable diseases.
Logan.....	0	0	0	0	0	0	0	0	0	0	0	0
Lyon.....	0	0	0	0	0	7	0	0	0	0	0	0
Marion.....	0	0	5	4	0	0	0	0	0	0	0	1
Marshall.....	1	8	0	0	0	0	0	0	0	8	0	0
McPherson.....	0	0	0	0	0	0	0	0	0	0	0	0
Meade.....	0	0	0	0	0	0	0	0	0	0	0	0
Miami.....	0	0	1	1	0	0	0	0	0	0	0	0
Mitchell.....	0	1	0	3	0	0	0	0	0	0	0	0
Montgomery, except Coffeyville.....	0	2	2	11	2	2	0	0	0	11	2	0
Morris.....	0	0	0	0	0	0	0	0	0	0	0	1
Morton.....	0	0	0	0	0	0	0	0	0	2	0	0
Nemaha.....	0	2	2	0	0	0	0	0	0	2	0	0
Necoshe.....	0	0	1	3	1	0	0	0	0	34	1	0
Ness.....	0	0	0	3	0	0	0	0	0	0	6	0
Norton.....	0	0	0	0	2	0	0	0	0	0	0	0
Osage.....	0	5	0	0	1	3	0	0	0	0	0	0
Osborne.....	0	0	0	0	0	0	0	0	0	0	0	0
Ottawa.....	0	0	0	17	0	0	0	0	0	5	4	0
Pawnee.....	0	0	0	0	0	0	0	0	0	0	0	0
Phillips.....	0	0	0	0	0	0	0	0	0	0	0	0
Pottawatomie.....	0	0	3	0	0	0	0	0	0	0	4	0
Pratt.....	0	0	0	0	0	0	0	0	0	0	0	0
Rawlins.....	0	0	0	0	0	0	0	0	0	0	0	0
Reno, except Hutchinson.....	1	1	3	2	0	7	0	0	0	0	4	0
Republic.....	1	0	0	11	0	0	1	0	0	0	0	0
Rice.....	0	0	0	0	0	0	0	0	0	0	0	0
Riley.....	0	0	0	0	1	0	0	0	0	0	2	0
Rooks.....	0	0	0	0	0	0	0	0	0	0	0	0
Rush.....	0	0	0	0	0	0	0	0	0	0	0	0
Russell.....	0	0	0	0	0	0	0	0	0	0	0	0
Saline.....	0	0	0	0	0	0	0	0	0	0	0	0
Scott.....	0	0	0	0	0	2	0	0	0	0	0	0
Sedgwick, except Wichita.....	0	1	0	7	8	53	0	0	0	6	27	0
Seward.....	0	3	2	0	0	0	0	0	0	0	0	0
Shawnee, except Topeka.....	0	0	0	0	0	0	0	0	0	0	0	0
Sheridan.....	0	0	0	0	0	0	0	1	0	0	0	0
Sherman.....	0	0	0	0	0	0	0	0	0	0	0	1
Smith.....	0	0	0	14	0	0	0	0	0	0	0	0
Stafford.....	0	0	0	0	0	0	0	0	0	0	0	0
Stanton.....	2	0	0	1	0	0	0	0	0	0	1	0
Stevens.....	0	0	0	0	0	0	0	0	0	0	0	0
Sumner.....	2	1	0	18	4	0	0	1	0	2	5	3
Thomas.....	0	0	0	14	0	0	0	0	0	0	2	0
Trego.....	0	0	0	0	0	0	0	0	0	0	0	0
Wabaunsee.....	0	0	0	0	0	0	0	0	0	0	0	0
Wallace.....	0	0	0	0	0	0	0	0	0	0	0	0
Washington.....	0	0	0	2								

MORBIDITY STATISTICS FOR MARCH, 1914.

Number of Cases Reported to the State Board of Health.

COUNTIES.	Typhoid fever.	Diphtheria.	Scarlet fever.	Smallpox.	Measles.	Whooping cough.	Measles.	Pellagra.	Polio.	Mumps.	Chicken pox.	Other communicable diseases.
THE STATE	30	79	159	405	839	170	6	3	0	401	221	99
Allen	0	1	1	15	29	2	0	0	0	56	7	0
Anderson	0	0	0	0	0	0	0	0	0	0	0	0
Atchison, except Atchison city	0	0	0	0	0	0	0	0	0	0	0	0
Barber	0	0	0	0	0	0	0	0	0	0	0	0
Barton	1	0	2	9	0	1	0	0	0	2	2	0
Bourbon, except Fort Scott	0	0	2	0	1	2	0	0	0	1	0	0
Brown	0	0	3	16	0	1	0	0	0	1	0	0
Butler	0	0	1	12	8	25	0	0	0	7	0	0
Chase	2	0	4	1	0	0	0	0	0	0	1	1
Chautauqua	2	0	1	2	1	3	0	0	0	29	2	0
Cherokee	1	3	1	6	3	0	0	0	0	0	2	0
Cheyenne	0	0	0	0	0	0	0	0	0	0	0	0
Clark	0	0	5	2	1	0	0	0	0	0	1	0
Clay	1	2	1	27	1	0	0	0	0	0	0	0
Cloud	0	3	2	37	2	0	0	0	0	0	17	0
Coffey	0	2	0	0	0	0	0	0	0	6	0	0
Comanche	0	0	0	0	0	0	0	0	0	0	0	0
Cowley	1	0	0	7	15	0	0	0	0	0	1	0
Crawford, except Pittsburg	1	4	3	12	1	1	0	0	0	4	0	0
Decatur	0	2	11	11	12	0	2	0	0	0	9	0
Dickinson	0	0	0	0	0	0	0	0	0	0	0	0
Doniphan	0	0	0	0	0	0	0	0	0	0	0	0
Douglas	0	0	0	0	97	3	1	0	0	21	1	0
Edwards	0	0	1	0	1	1	0	0	0	0	0	0
Elk	0	0	4	0	3	0	0	0	0	0	0	0
Ellis	0	0	0	0	0	0	0	0	0	0	0	0
Ellsworth	0	0	0	3	0	0	0	0	0	2	2	0
Finn	0	0	0	0	0	0	0	0	0	0	0	0
Ford	0	0	1	0	3	1	0	0	0	0	0	0
Franklin	0	5	9	1	0	0	0	0	0	0	0	0
Geary	0	3	0	1	54	0	0	0	0	0	0	0
Gove	0	0	0	0	0	1	0	0	0	0	0	0
Graham	0	0	0	0	0	0	0	0	0	0	0	0
Grant	0	0	0	0	0	0	0	0	0	0	0	0
Gray	0	0	0	0	1	0	0	0	0	0	0	0
Greenley	0	0	0	0	0	0	0	0	0	0	0	0
Greenwood	2	2	1	1	0	6	0	0	0	3	0	0
Hamilton	0	0	0	0	0	0	0	0	0	0	0	0
Harper	0	1	3	13	22	0	0	0	0	7	1	0
Harvey	0	0	0	1	0	0	0	1	0	0	0	0
Haskell	0	0	0	0	0	0	0	0	0	0	0	0
Hodgeman	0	0	0	0	0	2	0	0	0	0	0	0
Jackson	0	0	4	0	4	0	0	0	0	0	0	1
Jefferson	1	0	0	0	0	1	0	0	0	0	0	0
Jewell	0	1	0	0	0	0	0	0	0	0	0	0
Johnson	0	0	0	0	0	2	0	0	0	0	0	0
Kearny	0	0	0	0	0	0	0	0	0	0	0	0
Kingman	0	0	0	0	0	0	0	0	0	0	0	0
Kiowa	0	0	3	7	34	2	0	0	0	4	13	4
Labette, except Parsons	1	0	9	2	17	0	0	0	0	0	0	0
Lane	0	0	1	0	0	0	0	0	0	0	0	1
Leavenworth, except Leavenworth city	0	1	0	4	14	2	0	0	0	2	0	0
Lincoln	0	10	0	0	110	16	0	0	0	5	5	3
Linn	0	0	6	0	0	4	0	0	0	1	0	0

MORBIDITY STATISTICS—Concluded.

[illegible]

The City Dump.

If every person maintaining a nuisance could be prosecuted, it is pretty safe to say that fully two-thirds of the heads at the helm of the average city governments of the state would be subject to penalty for gross neglect of that colossal fly breeder—the city dump. We saw one recently. It was a collection of brush, tin cans, manure, garbage, night soil, dead animals, and putrefying odors. By way of description, it would beggar the imagination of Dante or the facile pen of Poe to do full justice to all of its horrors of putrefactive, fermentative and maggot-breeding possibilities. As a shock to the olfactory sense, we know of no words to fit the occasion except a recent quotation from a trade journal which tells of an odor “which was a combination of two skunks fighting at midnight in a badly kept graveyard, between a rubber vulcanizing plant, a glue factory and a bone ash kiln.” In fact it was neither æsthetic to view, nor to write about.

But the condition is far too common, and while the annual clean-up is on why not settle the problem of the city dump as well? There may be some advantage to the transfer of garbage from many scattered small heaps within the city limits to one huge one beyond the city limits, but it is still insisted that the big heap remains productive of many varieties of the fly nuisance. What to do with the city garbage is a problem which has caused many unnecessary gray hairs on the polls of the “city dads,” considering how easily it may be solved. The state law clearly sets forth that garbage must be *burned* or *buried*. Every city can not afford a destructor for its needs in this line, but an acre of waste ground, a few gallons of kerosene or crude oil and a match make a pretty fair substitute.

In a series of experiments, the state board of health of Ohio determined that garbage, including tin cans, buried in trenches under one or two feet of earth would be reduced, so that soil would be fit for cultivation in two years. Furthermore, it was good for the soil.

So while the clean-up is in progress don't overlook the ultimate disposal of your trash. It behooves city governments to maintain sanitary standards if they would have individuals pattern after them. Don't permit your city dump to remain a nuisance and a menace.

Does this fit your town? SWAT THE FLY!

The Typhoid Fly.

The relation of the common house fly to the prevalence of typhoid fever and the diarrheal diseases of infants has been clearly established by many careful clinicians and sanitarians, and also by laboratory workers who have recovered from the legs and wings of the fly and from the "fly-specks" the pathogenic organisms responsible for these diseases.

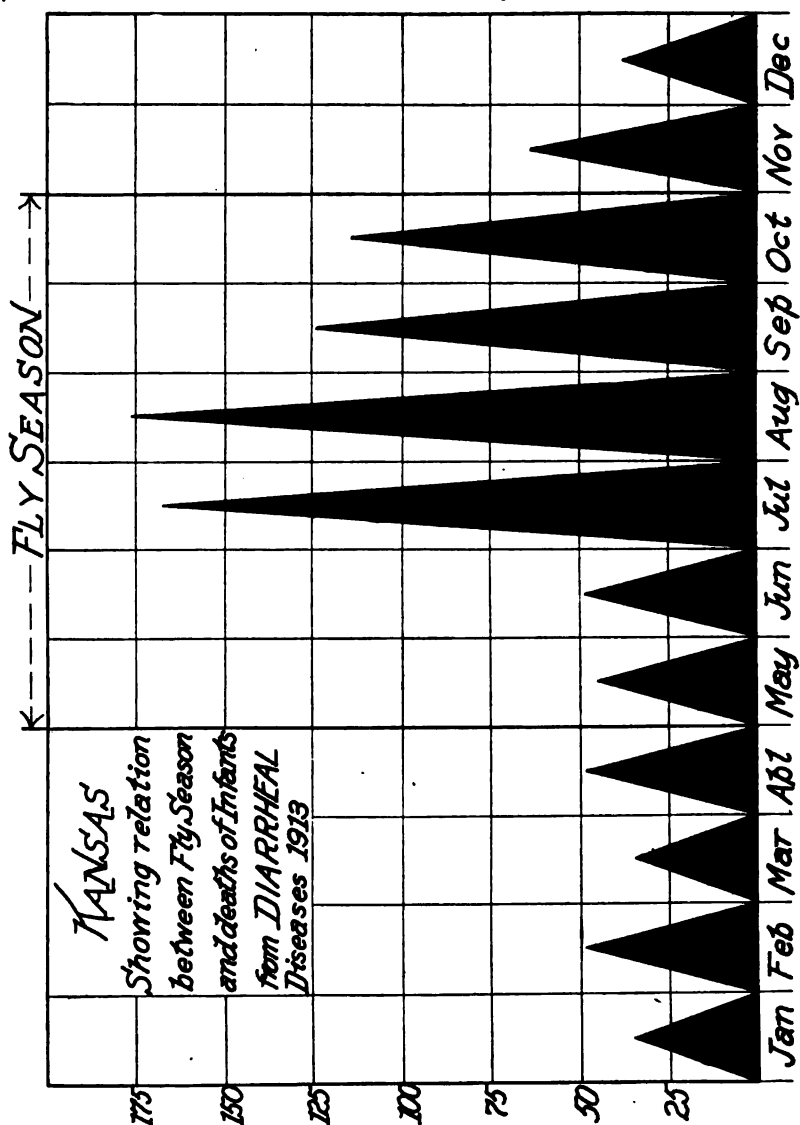
It has also been demonstrated that the house fly may be the means for the dissemination of most any of the communicable diseases as a mechanical carrier of the infectious agent. Nothing is more certain than that flies feeding on tubercular sputum carry on their legs and deposit through the fly-specks the tubercle bacilli on whatever they may alight, and if that should be food ready to eat, the possibility, nay the probability, of an infection of fresh virulent organisms is clearly apparent. The same condition applies to all other infectious agents, and recently Flexner has pointed out the possible danger of the virus of poliomyelitis (infantile paralysis) being thus transmitted.

There were 343 deaths in Kansas from typhoid fever last year which, at a mortality rate of 10 per cent, would mean that there were 3,430 cases of this disease; the incidence of the disease in its relation to the fly season is graphically shown in the chart, and should convince the most skeptical that the typhoid fly should not be tolerated in the home, and his breeding place, the manure heap, should find no abiding place on the premises.

Not only is the manure heap a choice breeding place for the house fly, but the open, unscreened, outside toilet is also a favorite breeding and feeding place. What is more disgusting, and at the same time dangerous, than the knowledge that the flies which may now be in your kitchen or dining room, or in the nursery on baby's bottle, were but a short time before a guest at a neighboring outside toilet?

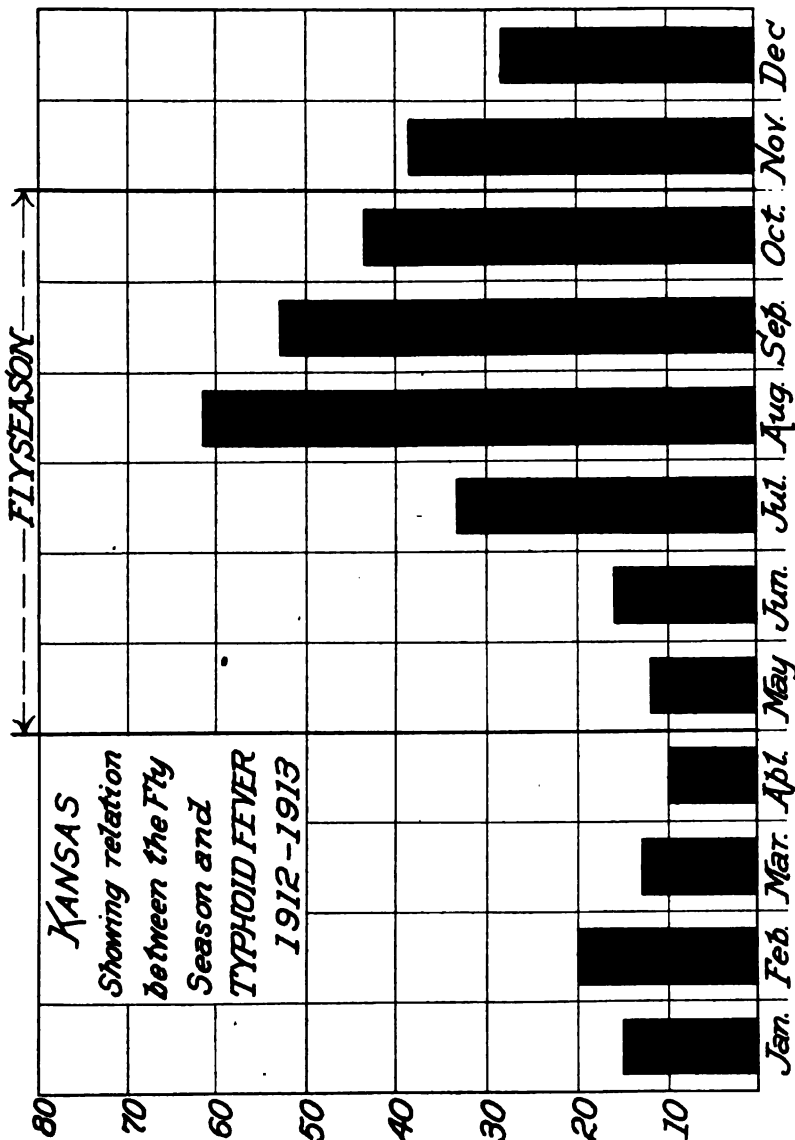
If we are one of those who believe that the sanitarians are overzealous in their anti-fly propaganda, or one of those who still hold that the fly should be allowed to do our scavenging for us, our sense of pride, decency and cleanliness should prompt us to join the Swatters' Club in an endeavor to put the "*Musca domestica*" out of business.

A study of the cut, showing the incidence of the diarrheal disease of infants for last year in this state, is also significant, in that



the highest rate is coincident with the greatest prevalence of flies, which undoubtedly is an important element, together with heat, dirty milk and dirty mothers, in the causation of the diarrheas of infants.

Personal and community safety from the fly-borne diseases are only possible when every citizen has a realizing sense of his duty in seeing that his premises are kept free from fly-breeding places.



A Home-Made Fly Poison.

Beat together the yolk of one egg, one-third cupful sweet milk, one level teaspoonful of sugar and a level teaspoonful of black pepper. Put on plate and set where flies abound. After a few hours, says Emma P. Telford, you will find the floor covered with dead or stunned flies. Sweep up and burn.

The Busy Fly.

(A school girl's effort.)

A little busy, buzzing fly, went sailing through the air,
He sang and buzzed the livelong day and said the world is fair.
He ate of this, and ate of that, and said this life is good,
And then he flew into the house and sampled all the food.
He left about a thousand germs on every place he stopped,
And when he could n't eat no more, into the milk he dropped.
Our Jim came and drank the milk and thought it quite a treat
But never thought of what was upon that old fly's feet!
In just four weeks from that day from typhoid Jim did die,
All because he drank the milk where floated that old fly.

So, people, if you 'd guard your health, from little flies beware,
And everything you eat or drink, give it the greatest care.
Let 's all turn out and swat the fly from morning until night,
And never give him any peace until we 've won the fight.
For if we don't, no one can tell, it may be you or I,
To be hauled out on the hill a victim of the fly.—*Louis Larson.*

House Insects and How to Get Rid of Them.

COCKROACHES.

Roaches are a most common and offensive insect, and, like the fly, are of many varieties. In the household they are usually most abundant in pantries and kitchens, in the neighborhood of the fireplace and crevices near the floor; they feed almost entirely upon dead animal matter, certain cereals, and other similar products.

A very thorough and effective method of clearing the premises is in fumigation with hydrocyanic-acid gas. This method is very dangerous, however, and should never be practiced unless a household is vacated and the work performed under expert supervision.

A common remedy consists of a liberal use of insect powder. Roaches by this method are numbed and must be brushed up and subsequently burned. The variety of powder and method of using will be given in a subsequent portion of the circular.

FLEAS.

There are many varieties of this insect, and when a household becomes infested it is a most difficult pest to combat. They develop in dust in cracks and crevices of the floors, in undisturbed overhangings, the fur of animals, etc.

A thorough fumigation with sulphur often assists in removing the pest. Where fleas are abundant, the only possible means of

exterminating them is by the removal of all furniture and over-drapings, thorough washing of all floors, around the baseboard, etc., with a solution of hot soapsuds to which a small amount of coal oil has been added, and the after fumigation of the premises by burning sulphur.

It is one of the most difficult of the insect pests to combat, and every infested household will constitute a problem unto itself.

BED BUGS.

This disgusting parasite, as its name implies, most frequently occupies portions of the bed frame or bedding. On account of its habits of concealment it is sometimes difficult to exterminate. Where present, all cracks and crevices where the bugs can gain entrance should receive a liberal application of kerosene oil, followed by subsequent fumigation of the room by sulphur. Energetic applications of this procedure will effectively exterminate this pest.

Various bed bug mixtures on the market are not only of limited value, but are dangerous in application. It is a peculiar feature that the presence of cockroaches is rarely associated with bed bugs, the latter being an enemy of the former pest.

MOTHS.

There are many varieties of this insect, the most common being the clothing moth, the destructive work of this insect being familiar to every one. In a general way, moths will survive only in unlighted, poorly ventilated portions of the household. Fabrics that are in constant use and exposed to sunlight and air are rarely infested. The thorough airing and brushing of all materials every twenty-one (21) days will prevent the destructive work of this pest.

The storing of fabrics in tightly sealed paper bags will usually protect the articles. The fumes of formaldehyde gas in no way limits the ravages of insects. In small apartments sulphur fumigation will assist, and the spraying of clothing with a two per cent solution of carbolic acid in equal parts of alcohol and benzine will kill the larvae. For furs, the placing in cold storage is the most certain protection. In general, frequent brushing of garments and subsequent airing are effective means of preservation.

ANTS.

There are many varieties of this insect, and the only means of protection is the effective destruction of the nests. When ants once gain entrance to a household, their extermination can be accomplished only with great difficulty. Bisulphide of carbon when applied to their nests will be effective. This method consists of

pouring an ounce or two of this chemical into a number of holes made in the nest with a stick, and promptly closing the holes. When the nests of the ants can not be found there is little chance of their eradication.— *Buffalo Bulletin*.

A Desperate Case.

A western physician received the following from a brother physician:

Dear Dock I have a pashunt whose physical sines shows that the windpipe has ulcerated off and his lungs have dropped into his stumick I have given hym every thing without effect his father is welthy honorable and infloecensial as he is a member of assembly and god nose I dont want to loss hym what shall I do ans by return male. Yours frat,

DOC TISHBEIN.

Odd Statements in Previous History.

Naturally, applicants for life insurance may be expected to put as good a face as possible on the reports concerning relatives and the causes of their deaths, but they sometimes make rather amusing statements. Some one has collected a few of these which were originally published in the *British Medical Journal*.

"Mother died in infancy."

"Father went to bed feeling well and the next morning woke up dead."

"Grandfather died suddenly at the age of 108. Up to this time he bid fair to reach a ripe old age."

"Applicant does not know cause of mother's death, but states that she fully recovered from her last illness."

"Applicant has never been fatally sick."

"Applicant's brother, who was an infant, died when he was a mere child."

"Grandfather died from gunshot wound, caused by an arrow shot by an Indian."

"Applicant's fraternal parents died when he was a child."

"Mother's last illness was caused from chronic rheumatism, but she was cured before death."

"Father died suddenly; nothing serious."

There is a delightful innocence about some of these. Take the last, for example. This has a western flavor, as though the applicant appreciated father's having made little fuss about it. When the time came he simply went, that was all.

How to Treat Manure.

Prof. S. A. Forbes, state entomologist of Illinois, tells how larvæ can be killed without serious loss of the fertilizing quality of the manure in which they breed.

Three pounds of high calcium lime to fifteen pounds of manure will kill 940 out of every thousand. Two pounds of iron sulphate in a gallon of water to fifteen pounds of manure will kill 941 larvæ per thousand.

One and one-half pounds of common salt in a gallon of water applied to twelve pounds of manure will kill 888 larvæ per thousand.

Formalin Kills Flies.

Prof. R. I. Smith, entomologist, N. C. Agricultural Station, says:

"Formalin is a very successful poison for flies in spite of many reports to the contrary. I have recently used it extensively with excellent results. The method that I have found most successful is the use of formalin in milk, with the following proportions:

"One ounce (two tablespoonfuls) of formalin.

"Sixteen ounces (one pint) of equal parts milk and water.

"In this proportion the mixture seems to attract the flies much better than when used in sweetened water. The mixture should be exposed in shallow plates. A piece of bread in the middle of the plate furnishes more space for the flies to alight and feed, and in this way serves to attract a greater number of them.

"I first used this poison in a milk room where the flies were very numerous, and poisoned over 5000 flies in less than twenty-four hours on several occasions. Over a pint of flies were swept up in this room each time the poison was used.

"Another experiment was used in a large calf barn, where the flies were numerous. I exposed six ordinary sized plates of the formalin poison mixture and killed about forty thousand (four quarts of flies) between 12 o'clock noon and 8 the next morning. This is only an illustration of what can be done with formalin around stables where flies are breeding. I could cite a number of cases where the formalin poison mixture has been used in unscreened kitchens and dining-rooms and resulted in killing practically all the flies.

A good place to use this formalin is on the front and back porches, where flies are frequently numerous and waiting to enter whenever the doors are opened."

Baby-Bye Revised.

Baby-bye,
Here's an insect of the tribe Diptera, specific name
Musca domestica—
We will watch him,
You and I.
There he goes
On his curiously appendaged extremities, leaving trail of microbes
Over baby's nose.
See him crawl
With his six legs, each having five-jointed tarsuses, his three-sectioned
antennæ with the marvelous tactile tips waving before him—
Up the wall,
Seeking food with his spongy-lipped proboscis, hanging downside-up on the
ceiling; yet, on account of his claw-like feet and appendaged soles,
He will never fall.
By-and-by,
When we have finished our scientific observations and made a few hygienic
suggestions,
Little fly,
Formerly considered harmless, but now classed by scientists and physicians
as a disease-breeding pest to be exterminated—
You must die!

—J. Wiley Owen in *Puck*.

Swat Him!

Consider now the little fly, whose name is rhymed with "baby-bye."

He has his birth in the manure, crawls forth and loiters in the sewer, and, smeared with deadly typhoid germs, he leaves his brother maggot-worms, unfurls his dainty wings of silk and dumps his microbes in the milk, where their huge numbers mount and mount, increasing the bacterial count, until they reach the food supply some woman feeds her "Baby-bye."

The fly comes gaily unto us, his feet all gaumed with poison-pus, and singing clear his song so sweet, alights and cleans them on the meat. He gathers scarlet-fever spores and leaves them on the walls and floors; he is not proud, and oft will stoop to carry heavy loads of croup, and place it where its awful death may come and go with baby's breath. Oh, do not call him indolent! He calls that summer day misspent in which he's failed to load the breeze with the live germs of some disease; and if he finds them not, though hurt, he'll be content with just plain dirt.

Consider well the little fly, who buzzes so 'round "Baby-bye."—
Farm and Fireside.

Eugenics.

The chart before him lay, wherein to see—
Defeat and failure as his ancestry,
Weakness and pain as his heredity.
He bowed his head in bitter agony
Feeling himself unworthy utterly.
Then light, through black despair,
Shone piercingly.
“They have forgot my brother,” whispered he,
“Jesus, who died for others on the tree,
And my great Father, God, who strengthens me.”
—Elizabeth C. Billings in “The Survey.”

War on the Mosquitoes.

The only successful way of getting rid of the mosquitoes is in destroying their breeding place, or protecting same in a manner to prevent their breeding. These breeding places are as follows: empty bottles and cans in yards, streets and alleys, undrained and stagnant pools of water which contain water more than ten days, the average breeding cycle of the mosquito; the open or imperfectly covered rain barrels or cisterns. When one is bothered with mosquitoes it is a fairly good evidence that their breeding place is within the distance of a block. To get rid of all breeding places, then, is of supreme importance for health and comfort. All low places should be drained. Every householder should see that his rain barrels are absolutely mosquito proof. If this can not be done, a top coating of oil will not hurt the water for domestic purposes. Tall weeds and grass should be cut down as these furnish another breeding place by keeping the ground wet.

If mosquitoes gain access to a house, they are perhaps most quickly gotten rid of by burning in the room a quantity of pyrethrum powder, which can be secured at any drug store. The burning fumes of this stupefies them and they fall to the floor, after which they should be swept up and burned.

Crude oil poured on the surface of water cuts off the air from breeding insects and thus kills them. Use in proportion of one quart to a plat of twenty feet square.

Not only is one's personal comfort endangered by the presence of the mosquito, but health is also menaced, for we now know that malarial fever and yellow fever are transmitted by the bite of certain species of infected mosquitoes. Swat the mosquito!

Ingersoll's Reply.

A young man who sought a clerkship in one of the departments at Washington once asked the late Robert G. Ingersoll for his endorsement, and this was Ingersoll's reply:

"Young man, I would rather have forty acres of land, with a log cabin on it and the woman I love in the cabin—with a little grassy, winding path leading down to the spring where the water gurgles from the lips of the earth, whistling day and night to the white pebbles a perpetual poem—with hollyhocks growing at the corner of the house, and morning-glories blooming over the low-thatched door—with lattice work over the windows so that the sunlight would fall checkered on the dimpled baby in the cradle—and birds, like songs with wings hovering in the summer air—than be clerk of any government on earth."—*Florida Notes*.

Swat the Fly.

Two flies rose up from the city street
With poisonous slime all over their feet;
Into the nursery they made a race
And crawled all over the baby's face—

Ta-ra, swat the fly;
Ta-ra, swat the fly.

Three flies flew off from a garbage heap
And over to the table did softly creep;
They danced on the butter and swam in the milk
And washed the filth from their wings of silk—

Ta-ra, swat the fly;
Ta-ra, swat the fly.

Four flies flew in through a screenless door
To just look around the grocery store.
They tasted the sugar and drank in the can
And wiped their noses on the grocery man.

Ta-ra, swat the fly;
Ta-ra, swat the fly.

Five flies flew out of a nasty drain
And started to have some fun again.
They peevd the man with the hairless head,
Then left some germs on the children's bread.

Ta-ra, swat the fly;
Ta-ra, swat the fly.

Six flies danced around in some rotten muck,
Their bodies got covered with typhoid truck;
Into the pantry they raced a heat
And cleaned themselves on the family meat.

Ta-ra, swat the fly;
Ta-ra, swat the fly.

—*Indiana Bulletin*.

Prize Essays on the House Fly.

Some time ago prizes were offered in the Topeka city public schools for the best essay on the topics "The House Fly as a Carrier of Disease," and "Why is the House Fly Dangerous?" The prize essays were so good that they are worthy of publication in the BULLETIN, and several are herewith submitted to our readers.

SEVENTH- AND EIGHTH-GRADE SERIES.

FIRST PRIZE.

Frances Baker, Lowman Hill school, age 15, 8-B Grade.

THE HOUSE FLY AS A CARRIER OF DISEASE.

Wherever people or animals are there are flies. "Fly" is applied to a great many insects, of which the house fly is most commonly known. The head of the fly is small, but the eyes are large and contain a great many facets. Flies have a sucking apparatus from which is secreted a fluid which makes hard substances soft, and by which they obtain their food. They can walk on a perfectly smooth surface, even on the ceiling, by means of little sucker-like hairs on the bottom of their feet.

They like to stay in the filthiest places, such as manure piles, stables, on dead animals, in outhouses, and a great many other places. Then, of course, as they like a change of food, they come and light on the screen door, and when it is opened they come in (without being invited) and light upon the table, in our milk, on the cake, pie, meat, and various other things, and leave the germs which they have collected from other places.

The fly does not lay less than one hundred eggs, and generally about five hundred. It takes the egg about twenty-four hours to hatch; they are then called maggots. In the course of from seven to ten days they become pupæ, and then flies. In a great many flies the eggs hatch within the body of the insect, and the living larvæ are deposited. The larvæ is commonly termed a grub or maggot, and is footless, and frequently almost structureless.

Thus, flies multiply very rapidly, and if we did not try to get rid of them there would soon be more than we could stand, and our general health greatly impaired. There are more than 40,000 species. One fly captured last summer in New York city was found to be carrying on his mouth and legs over 100,000 bacteria.

People in Europe and other eastern places used to believe that it was very wrong to kill any kind of insects. The flies carried the germs of ophthalmia from one person to another until there was hardly an adult with perfect eyes.

The fly is now almost universally recognized as one of the most formidable foes of the human race. Rattlesnakes are less to be feared in most localities. It is an old device to let a fly crawl about on a sterilized plate of nutritive gelatin, such as is commonly employed for growing cultures of bacteria. At first there is no sign; but, after a few hours in the incubator, the insect's track on the gelatin is outlined in flourishing colonies of microbes.

Typhoid fever, cholera, plague, and tuberculosis have been transmitted by flies. If care is not taken to prevent the fly entering the sick room he will go in, light upon the patients and annoy them; he will find all the dirty corners and all the germs they contain; then he will go to some place where the people are well and deposit the germs.

We should "swat" the flies and put plenty of "tanglefoot" around where they can help themselves. One pint of castor oil and two pounds of resin make a very good tanglefoot.

Our motto should be, with Walt Mason, "Swat the flies and boil the germs."

SEVENTH- AND EIGHTH-GRADE SERIES. SECOND PRIZE.

Adrienne Cody, Central Park School, age 16, 8-B grade.

THE HOUSE FLY AS A CARRIER OF DISEASE.

I am a fly. I'm not very old and am just learning where to find the best things to eat. My favorite places are in the spittoon in the sitting room and the uncovered garbage can on the back porch. Of course some flies would be bothered about having to go out of doors to get to that can. But it doesn't worry me. In the house where I live there aren't any screens, so I can fly from the garbage can to the spittoon in perfect safety. I often stop on the way, though, to get in the sugar bowl or crawl over any eatables that are handy.

There's a baby in this house who annoys me very much. Every time I leave the spittoon and crawl into that baby's mouth it cries and spits me out. Of course I leave a few tuberculosis germs in its mouth but it doesn't seem like that would hurt the baby.

It seems to me like people don't know what is good to eat. At least the people in this house don't. Why, they throw away all the good things. They put them in the garbage pail. I am endeavoring to show them what good things are, however, for I get my feet all sticky in the garbage can and then go and wipe them on the bread. About a hundred of my companions are doing the same thing. I really believe that the people are beginning to like it, for they never trouble us any more. We wipe our feet on the bread in peace and quiet.

I heard the woman across the way say that she believed flies had something to do with the man in this house having consumption. I wonder if he got it from the bread.

The woman across the way is losing all her flies. They're all coming over to our house. She won't give them anything to eat. She covers up her garbage pail, has tight screens on all her doors, and is a terror to flies in general. Her children are such happy, hearty youngsters, while the children in this house are always cross. They never get any afternoon nap. The flies won't let them.

There's a very great deal of illness in this house. Two of the boys have the malaria and the father is never well. I heard the mother say to the woman across the way, "I really do not know what to do for all this sickness. It drives me distracted." What do you think that woman said? Why, "Swat the fly," of course. At which I ducked. Oh, yes; the baby has the typhoid.

FIFTH- AND SIXTH-GRADE SERIES.

FIRST PRIZE.

Geneva Seybold, age 11, Garfield School, 6-A Grade.

WHY IS THE HOUSE FLY DANGEROUS?

The house fly, until recently, to the eyes of most of the people, was just a harmless, troublesome insect. But it has been found out at last and proved to be the most dangerous creature upon earth.

The house fly has been newly christened the typhoid fly. A typhoid fly is one that carries and spreads diseases. It is the greatest pest the housewife has to contend with. Born in filth, living in filth, and spreading diseases, it is a very dangerous insect.

It is born and bred in the filth of the barnyard and street, in the city dump yards, in refuse, decaying animal and vegetable

matter, and in all dirty places. It flies hither and thither into the houses of the diseased. The fly stings the sick person and in other ways gets germs of typhoid fever, tuberculosis, smallpox and diarrhea all over itself.

The fly is covered with spines, folds, hairs and cavities, on which microbes can easily cling. The little suckers on the bottom of each foot suck and hold a germ or two. Every time the fly puts one of his feet down he has deposited a germ. So, on a march of one inch, he has deposited one hundred germs upon the article.

A fairly dirty fly will carry fifty thousand germs and from two hundred to six million five hundred bacteria. Supposing that it is so laden when he flies out of the sick person's house, then it might come into *our* houses and wipe its feet upon the choicest of our dinners and possibly fall into a cream pitcher. Oftentimes the fly is fished out and the cream used. Then in a few days when one of the family takes sick, "What was the cause?" If this person had to pass daily a house where a person had this disease he would cross the street for fear of it, and yet he lets an insect full of these germs come into his home unmolested.

In the Boer war six hundred men died of typhoid fever in one year, and when the flies were nearly all abolished the next year the number was reduced to sixty.

Much sickness and death is caused by innocent people buying food and milk diseased by flies.

Swat the fly, for if a fly lays one hundred and twenty eggs twelve times each season, and its descendants do the same, the one fly would be the cause of millions of useless, harmful, dirty flies at the end of the season. So let us have this for our motto, "Swat the Fly."

FIFTH- AND SIXTH-GRADE SERIES.

SECOND PRIZE.

Ina Banks, age 11. Central Park School, Sixth B Grade.

WHY IS THE HOUSE FLY DANGEROUS?

The house fly is very dangerous because it carries germs.

The female fly is the most dangerous in one way, for she lays the eggs of the many flies that are being hatched each day. At one time the female fly lays about one hundred and twenty eggs, and she lays two to four times during the year. In looking for a place to lay her eggs, she looks for the filthiest places that can be

found, such as manure piles, open sewers and dead animals. It takes about twenty-four hours for the eggs to hatch. When they are first hatched they are not flies, but maggots.

While still maggots they bury themselves for about five days. When they come up from the filth they become flies, and still eat the filth which they ate while maggots.

The fly will quickly leave these places of filth to come to our own table and get on our food, or to go to leave the germs on the sleeping baby's mouth.

The fly's leg is covered with numberless little hairs, which gather the germs of tuberculosis, typhoid fever, diphtheria and many other contagious diseases, and leave them for us to eat in our food.

The fly causes many deaths by bringing the germs to us. In New York city seven thousand deaths were reported which upon investigation were found to be caused entirely by flies.

The fly has one eternal enemy and that is the clean housewife.

Flies also bring these diseases by leaving those small, harmless-looking spots in our houses. Each fly speck contains many little germs.

Many housewives let a fly get in a pitcher of milk and then take a spoon and take out the fly, and the family drink the milk. Did she take out the germs? No, she simply took out the fly and left the germs for the family to eat. Which is the cheaper, a large doctor bill or a quart of milk? And yet we wonder after all this where we got the tuberculosis, typhoid fever, and diseases of the intestines.

"SWAT THE FLY!" say I.

University Extension Course in Vital Statistics and Demography.

Upon request of the State Board of Health, the University of Kansas, through its extension division, has provided for a course of instruction in vital statistics and demography.

An unusual opportunity is presented to health officers, local registrars, engineers and social workers to avail themselves of the services of the University, whereby the ordinarily dry and hazy subject of vital statistics may be made as interesting and compelling as a romance.

The State Department of Health expresses the hope that health officers generally, and local registrars in particular, insurance agents

and sanitary and civil engineers will take up this course of study. Due credit will be given by this department to all health officers taking the course.

The announcement of the University Extension Division follows:

THE UNIVERSITY OF KANSAS.

LAWRENCE.

ANNOUNCEMENT OF SPECIAL COURSE IN VITAL STATISTICS AND DEMOGRAPHY.

The University Extension Division has completed arrangements for a course of study in vital statistics and demography, particularly for local registrars, health officers and physicians, sanitarians and engineers.

It is designed in this course to bring out the proper methods of determining the movements of population by studying the elements which influence its movements; the uses of vital statistics from both a legal and sanitary standpoint; methods of figuring death rates; methods of correcting or standardizing death rates; some work in the arithmetic of inexact numbers and the laws of probability, and the classification of the causes of death. The course will be made in eight assignments.

Arrangements have been made with Doctor Wilbur, of the Division of Vital Statistics, Bureau of the Census, to send the 1911 report of this division without charge to all students of this course, which report will be used in the form of a textbook.

The fee for this special course is \$5. If you prefer to do other work in the Correspondence-study Department in addition to this, the fee will be \$10 per year, which permits you to carry any two courses in the Correspondence-study Department at one time. As soon as one course is finished, under the yearly tuition plan, another may be taken up without additional fee. The fee covers one calendar year.

If you desire to register for this course, fill out the enclosed blank and send it, with check or money order made out to The University of Kansas, Lawrence, Kan. Your first assignment will then be sent to you. When the work there provided for is completed, return your answers to the questions in this assignment to the Extension Division, where it will be corrected and returned to you with additional assignments.

Address all communications in regard to registration to

THE UNIVERSITY EXTENSION DIVISION,

THE UNIVERSITY OF KANSAS,

Lawrence, Kansas.

Summer School for Physicians and Health Officers.

The tentative program for the fourth annual summer school for physicians and health officers is herewith presented. It was thought that there might be a number of physicians who were not officially interested in the school for health officers who might attend if clinical post-graduate instruction was available. Moreover, all of our health officers are also practitioners, and therefore a combined course of clinical instruction, together with an hour's laboratory work each day and lectures by the foremost sanitarians in the country, would more nearly meet the actual needs of our present conditions.

Therefore, this combined and altogether unique course is presented to the physicians and health officers of Kansas. It is yours for the trouble only of attendance. Can you afford to miss it?

FOURTH ANNUAL SUMMER SCHOOL FOR PHYSICIANS AND HEALTH OFFICERS, AT THE BELL MEMORIAL HOSPITAL OF THE SCHOOL OF MEDICINE OF THE UNIVERSITY OF KANSAS, ROSEDALE.

June 8-13, inclusive, 1914.

Under the auspices of the Kansas State Board of Health and the School of Medicine of the University of Kansas.

All legal practitioners and students of medicine are invited to attend. Course free.

PROGRAM.

MONDAY, JUNE 8.

- 8-10 A. M. Registration at College Building, Rosedale, Miss Eleanor Maude Kibbey, Registrar.
- 10-12 A. M. Medical and Surgical Clinics, Bell Memorial Hospital, by the attending medical and surgical staff, Professors Sudler, Sutton, Hertzler, Milne, Murphy and Bohan.
- 2 P. M. Opening Address: Medical Education Up to Date, Prof. M. T. Sudler, M. D., Ph. D., Associate Dean.
- 3 P. M. Laboratory Hour. Laboratory Diagnosis and Treatment of Rabies (demonstration), Prof. Wm. K. Trimble, Associate Professor Clinical Microscopy and Pathology.
- 4 P. M. Public Health Problems and Their Solution, E. F. McCampbell, M. D., Ph. D., Secretary and Executive Officer, Ohio State Board of Health.
- 5 P. M. The Evolution of Our Ideas on Infection, Eugene R. Kelley, M. D., State Commissioner of Health, Seattle, Wash.
- 8 P. M. Annual Meeting of State Association of Health Officers (program announced later).

TUESDAY, JUNE 9.

- 9-12 A. M. Medical, Surgical, Obstetrical and Gynecological Clinics, Bell Memorial Hospital, Professors Sudler, Sutton, Hertzler, Milne, Murphy and Guffey.
- 2 P. M. Epidemiology of Pellagra, John Sundwall, M. D., special investigator U. S. Public Health Service, Professor of Anatomy, School of Medicine, University of Kansas.
- 3 P. M. Laboratory Hour: Bacterins and Vaccine Therapy, Prof. Wm. K. Trimble.
- 4 P. M. The Plague and Its Message to Our Twentieth Century Civilization, Eugene R. Kelley, M. D., Washington State Commissioner of Health.
- 5 P. M. The Control of Contagious Diseases by the Local Health Agency, E. F. McCampbell, M. D., Ph. D., Secretary and Executive Officer Ohio State Board of Health.

WEDNESDAY, JUNE 10.

- 9-12 A. M. Medical and Surgical Eye, Ear, Nose and Throat Clinics, Bell Memorial Hospital, Professors Sudler, Sutton, Hertzler, Milne, Hunt, Duke, Sawtell, May and Curran.
- 2 P. M. Epidemiology of Poliomyelitis, M. J. White, M. D., Surgeon U. S. Public Health Service, St. Louis, Mo.
- 3 P. M. Laboratory Hour: Pathology and Serum Therapy of Poliomyelitis and Meningococcal Meningitis, Prof. Wm. K. Trimble, Associate Professor of Clinical Microscopy and Pathology.
- 4 P. M. Tuberculosis—The Health Officer's Attitude Toward the Problem, E. F. McCampbell, M. D., Ph. D., Secretary and Executive Officer Ohio State Board of Health.
- 5 P. M. An Efficient Full-time Health Organization in a Small Community and How it Came About (Yakima), Eugene R. Kelley, M. D., Washington State Commissioner of Health.

THURSDAY, JUNE 11.

- 9-12 A. M. Medical, Surgical and Obstetrical Clinics, Bell Memorial Hospital, Professors Milne, Murphy, Skoog, Sudler, Sutton, Hertzler and Guffey.
- 2 P. M. The Problem of Infant Mortality, M. J. White, M. D., Surgeon U. S. Public Health Service, St. Louis, Mo.
- 3 P. M. Blood Examinations: Infections, Drug Poisons, Secondary and Primary Anemias, Protozoa, Prof. Wm. K. Trimble.
- 4 P. M. Camp Sanitation (illustrated), Eugene R. Kelley, M. D., State Commissioner of Health, Seattle, Wash.
- 5 P. M. Occupational Diseases and Industrial Hygiene, E. F. McCampbell, M. D., Ph. D., Secretary and Executive Officer Ohio State Board of Health.

FRIDAY, JUNE 12.

- 9-12 A. M. Medical, Surgical and Gynecological Clinics, Bell Memorial Hospital, Professors Sudler, Sutton, Hertzler, Milne, Murphy and Guffey.
- 2 P. M. Insect-borne Diseases, M. J. White, M. D., Surgeon U. S. Public Health Service, St. Louis, Mo.
- 3 P. M. Laboratory Hour. Examination Discharges; Sputum, Exudates and Transudates: Prof. W. C. Trimble.
- 4 P. M. School Sanitation: Eugene R. Kelley, M. D., Washington State Commissioner of Health.

5 P. M. The All-time Health Officer: Louis I. Doublin, Ph. D., Statistician, Metropolitan Life Insurance Company.

6 P. M. Resuscitation (demonstration): W. S. Mathews, M. D., Ph. D., Professor Physiology, School of Medicine, University of Kansas.

SATURDAY, JUNE 13.

9-12 A. M. Medical and Surgical Eye, Ear, Nose and Throat Clinics, Bell Memorial Hospital: Professors Milne, Murphy, Bohm, Sudler, Sutton, Hertzler, Sawtell, May and Curran.

2 P. M. Milk and the Public Health: Eugene R. Kelley, M. D., Washington State Commissioner of Health.

3 P. M. Laboratory Hour. Widal Test, Wasserman Test, Abderhalden Test, etc.: Prof. Wm. K. Trimble, Associate Professor of Clinical Microscopy and Pathology.

4 P. M. Round Table. S. J. Crumbine, M. D., Secretary State Board of Health and Dean School of Medicine.

A Parody—That Awful Cuspidor.

As I was in the hotel sitting,
As I'd often sat before,
I thought I heard a gentle spatting,
Spatting softly on the floor;
And turning in my seat quite gently,
Surrounded there by filth galore,
As if 't was there by innate nature,
I saw a little cuspidor.
That, and something more.

The guests were sitting round and chatting,
Chatting and chewing, as of yore,
While ever and anon they're spitting,
Spitting AT that cuspidor.
And vulgar words from mouths are streaming,
And 'backer juice was streaming more,
While in that mug was something awful,
And more of it upon the floor.
Yes! more upon the floor.

And, as I sat and gazed upon it,
It made my heart both sick and sore
To think that man's the maker of it;
The maker of that filth galore.
And as the stench came reeking from it,
Such as I never smelled before,
I thought we needed "SANITATION"
Stamped upon that cuspidor.
Thought of that, and something more.

—M. Cuthbertson, Sterling, Kan.

"How I Have Kept My Health and Working Power Till 80."

"Looking back on the family habits of my childhood, I perceive that the family diet was simple; that the children kept early hours; that our parents took care that we should have exercise in the open air every day. They had no luxurious habits—those sure destroyers of family stocks. Cleanliness of house and person was strictly observed.

"My mother took the best accessible advice about the care of her children's teeth, and saw that we followed it approximately. Experience has convinced me that dental hygiene is an important department of preventive medicine. Neither of my parents took enough thought for their children's eyes. I was congenitally near-sighted, and the difficulty increased considerably during my childhood and youth. It has been a serious obstacle all my life, for no oculist has ever been able to procure for me full vision.

"I have never been a large eater. I have eaten in moderate quantities a good variety of food, for I have always been able to assimilate comfortably any article of food or drink used in the countries where I have lived. I have not eaten too much meat, butter and eggs, as most of the men with whom I have been intimate. It seems to me that people who bolt a large amount of food, as a dog does when he has a chance, do not get so much pleasure out of eating as slower and more moderate feeders. I imagine that my good health has been largely owing to my moderation in eating and drinking and to the habit of daily exercise.

"It is high time to speak of my mental habits. I began as a boy to use my mind intently several hours a day. As a college student I increased the number of hours a day of mental occupation. From the time I became a tutor, at the age of twenty, onward, I think I have done per day an unusual amount of mental work, much of which, however, has had a routine or repetitive character. I have borne considerable responsibilities, both family and professional, which involved anxiety, a sense of risk, and sometimes professional conflict. That I have borne much labor and responsibility without ever suffering a temporary breakdown seems to me to be due—after the inheritance of a sound constitution—to my possessing a good muscular and nervous system, preserved by open-air exercise and the habit of moderate eating. It may have contributed to the fortunate result that at no time of my life have I ever made habitual use of any nerve stimulant, like tea,

coffee, tobacco or alcohol, although I have never been a total abstainer from any one of these stimulants except tobacco. When I have taken them it has always been in dilute forms.

"One result of the balance between my bodily and mental powers has been that I have always been able to sleep well at night, and, since I was seventy, briefly in the daytime also.

"I was aware of two mental and moral conditions which have contributed to my safe endurance of physical and mental strains. The first is a natural gift, namely, a calm temperament; the second is a result of a combination of this temperament with a deliberate practice of avoiding alike anticipations of disappointment and vain regrets. When involved in contests or critical undertakings I tried first to do my best in the actual struggle, and then not to concern myself too much about the issue. That was not my responsibility. When blocked or defeated in any enterprise I had much at heart I always turned immediately to another field of work. In this manner I avoided waste of energy and a chronic state of worry. One who ardently desires a calm temperament and serenity of spirit would do well to provide himself, if possible, with strong muscles and obedient nerves.

"My own experience has led me to think that strenuous work, done with interest and zeal, usually promotes health and vigor, and is seldom injurious if kept within the limits set by bodily fatigue. From observations of other people I have come to believe that imperfect sleep is a sure indication of excessive fatigue or of unwise nervous stimulation, and that the best counteracting influence is the cautious development of the muscular system.

"My experience does not furnish a short, explicit prescription for keeping health and working power till eighty years of age, probably because many and various causes have contributed to the result; but I feel safe in affirming that any one who desires to have a like experience will do well to eat moderately, to sleep at least seven hours a night with windows open, to take regular exercise in the open air every day, to use no stimulants, to enjoy all the natural delights without excess in any, and to keep under all circumstances as serene a spirit as his nature permits. This is the way to win from life the maximum of real joy and satisfaction. Does this seem a materialistic doctrine? It by no means excludes the spiritual influence of abiding love and good will."—*Charles William Eliot, President Emeritus of Harvard University.*

Race Betterment.

If it is true, as H. G. Wells makes his hero declare in one of his recent novels, that there is a collective mind apart and distinct from individual intelligence, then it must be admitted that the social intelligence of to-day is concerned as never before with the future and with the good of coming generations. Of this, the Conference on Race Betterment, just held at Battle Creek, Mich., is a striking illustration. Whatever one may think of the individual views expressed, or of the immediate concrete results of such gatherings, says *The Journal of the American Medical Association*, the fact is in itself significant that such a conference, extending over five days and attended by thousands of people, is possible. Never before in the history of civilization have there been so many men and women who were earnestly, sincerely and unselfishly laboring for the general good. One may criticize their reasoning, dissect their statistics or draw from their premises entirely different conclusions, but the important fact remains that such conferences, which are becoming increasingly frequent, would have been impossible and practically inconceivable a generation ago. The pessimist and the critic see in such gatherings only another symptom of universal unrest and discontent. The optimist sees in them faintly foreshadowed the dawning of the age of which Tennyson sang, when each man's good shall be all men's aim. The purpose of the Battle Creek conference, as officially stated, was "to assemble evidence as to the extent to which degenerative tendencies are actively at work in America and to promote agencies for race betterment." Under the first head were papers on apparent increase in degenerative diseases, the causes of the declining birth-rate, crime, deterioration of civilized women, factory degeneration, alcohol and tobacco, social evil, and delinquent and defective children. On the constructive side were discussions on eugenics in many of its phases. The program impressed one as being overloaded on the degenerative side—possibly because of an overemphasis of the subject at the present time—and as too much given over to a discussion of the past and present conditions rather than of constructive plans for the future. The general effect left on the mind of the listener was that the many papers and addresses, most of them excellent in themselves, were not correlated and were written often from conflicting, if not contradictory points of view, while many of those in attendance impressed the careful observer as being ear-

nest rather than informed, and zealous rather than discriminating. The impressive, undeniable fact, however, is that they were there. It is possible to-day, for the first time in the history of civilization, to call and to hold a conference to discuss, not time-worn dogmas or even present-day needs, but future possibilities. From this point of view, such conferences must command the careful attention of the student of social development.

How to Attain Old Age.

The chances of attaining old age are much greater if we live much of our life in fresh country air. Statistics go to show, according to Dr. Dezso, of Budapest, that the fourth generation of the town dweller is unknown; but enough is currently reported to make the conclusion inevitable that the *sine qua non* of longevity is a certain amount of time spent in the country. The city child is subject to a number of disturbing conditions other than mere absence of creature comforts, which undermine the constitution by throwing too heavy a burden on the sense organs, through which exhaustion of the central nervous system follows. Among these conditions are noises, a perpetual round of hurry, and unending sequences of incidents exhausting the attention, to which are superadded the physical discomforts of vitiated air and effluvia from human beings and waste organic products, beside offensive gases and infection-laden dust. To attain old age we have to relieve ourselves from worry, strains and anxieties, withdraw periodically from the whirl of effortful existence, modify our diet, omit the use of stimulants and narcotics, and spend reasonably long periods of time under pleasant conditions in practical retirement. Above all, amusement should be simplified and accepted rather than sought after. Only vegetable and semi-animal foods should be eaten.

How to Avoid the Automobile Back.

The automobile is coming into such general use that any advice to its users is of general interest. A great many people, in cranking their cars, strain their back or "drop a stitch," and if this is once started it usually happens more easily another time. Many people, after riding for any length of time, are tired in the back when they get out. If this is kept up, the pain or weakness increases, until many times the person is laid up with what is called lumbago or

rheumatism. Both of these conditions are commonly due to the wrong way of using the muscles of the back. In cranking, keep the back straight, like "the oarsman's back." Bend from the hips, snapping the crank over by straightening at knee and hip, but do not bend at the middle, or the waist line. In sitting in the car keep the back straight also. Get the hips well back against the back of the seat, and, if the upholstery make the shoulders droop, put a robe, a cushion, a book, or anything at the hollow of the back to prevent this. Do not slouch in the seat and do not sit on the lower part of the spine. This reverses the normal curves of the spine and must mean strain, with at times much crippling.

The Fool Fly.

There is a new fly trap that is a peach. It is built on the idea of inducing the flies to go out of the house instead of go in. The fly has great nerve but little brains. It will walk into any sort of a trap and never has sense enough to walk out again the same way it came in. With the horrible example of five hundred of its dead relatives right before its eyes it will walk out on a sheet of sticky fly paper to its own destruction. It fears no danger, apparently, because it has no brains. If the people would unite in war on the fly it could be exterminated, because it would walk into every trap and rush into every form of destruction. The only thing that would enable the fly family to survive for a single season is the marvelous capacity for reproduction. The female fly will raise a family of about fifty thousand fool but energetic children within forty-eight hours. Within a week she is great-grandmother, and if it were not for the reckless disregard of danger on the part of herself and her descendants the family roll call within a month would number a trillion. It is a great blessing that the fly has so little sense. If the fly had the brains and cunning of the crow or the hawk, for example, the world would have been devoured by flies long ago. Every bald-headed man would have been a raging and incurable maniac and every housewife would have been the incarnation of female fury.

But, as I have said, the fly has courage but no sense. Thank the Lord for that. As it has no discretion, no brains, it of course follows that it has no decency and no manners, no discrimination of taste. It hungers alike for the foulest putrescence and the daintiest concoction prepared by the high-priced chef. It will

feed with equal relish on the mangy hide of the ownerless dog and the perfumed cheek of the maiden fair. It wanders with equal enjoyment over the hairless pate of the business man as he fills the atmosphere with intemperate and unavailing profanity and the downy cheek of the infant slumbering in its crib. The fly has no redeeming trait of character, no characteristic that can challenge your admiration or command your respect.—“*Old Business*” in *Merchant's Journal*.

A Compound.

(In compliance with Pure Food and Drug Law.)

“HOW DOES IT SEEM TO YOU?”

It seems to me I'd like to go
Where bells don't ring, nor whistles blow,
Nor clocks don't strike, nor gongs don't sound,
And I'd have stillness all around.

Not real stillness, but just the trees'
Low whisperings, or the hum of bees,
Or brooks' faint babbling over stones
In strangely, softly tangled tones.

Or maybe a cricket or katydid,
Or the songs of birds in hedges hid,
Or just some such sweet sounds as these
To fill the tired heart with ease.

If 't weren't for sight and sound and smell
I'd like a city pretty well,
But when it comes to getting rest
I like the country lots the best.

Sometimes it seems to me I must
Just quit the city's din and dust
And get out where the sky is blue;
And say, how does it seem to you?

—Eugene Field.

Many of us dig our graves with our teeth.—*Dr. Abernethy.*

Water is the best “kidney medicine” the Lord or any one else ever made.

SWAT THE FLY!
SWAT THE FLY!
SWAT THE FLY!

REMEMBER.

You may forget to buy the thread
Your wife demanded, or the bread;
You may forget to pay the rent,
Or count the money you have spent;
You may forget to go to lodge,
And other duties you may dodge;
You may forget to kiss your wife,
Or e'en fail to insure your life;
You may forget your dinner date,
Or else get there a full hour late;
You may forget to go to church,
And leave the pastor in the lurch;
You may forget to say your prayers,
Or many serious affairs;
You may forget to wind the clock,
Or turn at night the front door lock;
You may forget to go to work,
And simply stay at home and shirk;
You may forget to pay your bills,
Or take your tonic and your pills,

BUT

Though other duties you pass by,
Do not forget to

SWAT THE FLY.

—Roy K. Moulton.

BULLETIN

OF THE

Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

S. J. CRUMBINE, M. D., Editor.

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No. 5.

MAY, 1914.

VOL. X.

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"Safety first" in your milk supply.

"We don't catch typhoid fever—we swallow it."

The lure of the red light is but a bait for the red plague.

Sanitarians can not cling to the practice of yesterday merely because of precedent.

Every outside toilet is a menace to the public health of the community unless made fly-proof.

By robbing yourself of sleep you put a mortgage upon your health which nature will foreclose.

Before taking your summer vacation you would do well to be vaccinated against typhoid fever.

The Topeka social and sanitary inventory is worth reading. Health officers are advised to purchase a copy of the report.

The Washington County Board of Health has issued a "Swat the fly" leaflet. What county will be next to get into the public health game?

The guarantee serial numbers issued under the national food and drugs act has finally been abolished. Good work, Doctor Alsberg, good work!

Community cleanliness is essentially applied Christianity, which is but another way of expressing the dictum of Benjamin Franklin that "Cleanliness is next to godliness."

MORBIDITY STATISTICS FOR APRIL, 1914.

Number of Cases Reported to the State Board of Health.

COUNTIES.	Typhoid fever.	Diphtheria.....	Scarlet fever.....	Smallpox.....	Measles.....	Whooping cough.....	Meningitis.....	Pellagra.....	Polymyelitis.....	Mumps.....	Chicken pox.....	Other communicable diseases
THE STATE.....	19	44	50	223	1010	114	2	1	0	268	67	30
Allen.....	0	2	1	29	158	5	0	0	0	21	2	1
Anderson.....	0	1	0	0	4	0	0	0	0	0	0	0
Atchison,* except Atchison city.....	0	0	1	0	1	0	1	1	0	0	0	0
Barber.....	0	5	0	7	0	0	0	0	0	2	9	1
Barton.....	0	0	0	0	1	0	0	0	0	0	0	0
Bourbon, except Fort Scott.....	0	2	2	0	0	7	0	0	0	0	4	0
Brown.....	0	0	2	5	8	2	0	0	0	0	0	1
Butler.....	0	1	0	12	15	12	0	0	0	18	0	0
Chase.....	3	0	0	0	0	0	0	0	0	0	0	0
Chautauqua.....	0	0	0	1	1	1	0	0	0	14	0	0
Cherokee.....	0	4	3	6	49	1	0	0	0	0	1	0
Cheyenne.....	0	0	0	2	11	0	0	0	0	0	0	0
Clark.....	0	0	0	5	4	0	0	0	0	4	2	0
Cloud.....	0	1	0	11	3	0	0	0	0	0	0	0
Coffey.....	0	1	0	0	1	0	0	0	0	0	0	0
Comanche.....	0	0	0	0	15	0	0	0	0	0	0	0
Cowley.....	0	1	0	3	3	0	0	0	0	0	0	0
Crawford, except Pittsburg.....	0	0	0	0	1	0	0	0	0	0	0	0
Decatur.....	0	1	6	17	34	3	1	0	0	0	2	0
Dickinson.....	0	0	0	0	0	0	0	1	0	0	0	0
Doniphan.....	0	1	0	4	4	0	0	0	0	0	0	0
Douglas.....	2	0	0	0	66	3	0	0	0	18	6	2
Edwards.....	0	0	1	0	0	0	0	0	0	0	0	0
Ellis.....	0	0	0	0	6	1	0	0	0	0	0	0
Ellis.....	0	0	0	0	6	1	0	0	0	0	0	0
Ellsworth.....	0	0	1	0	0	0	0	0	0	0	2	0
Finney.....	0	0	0	0	0	0	0	0	0	0	2	0
Ford.....	0	0	0	0	0	0	0	0	0	0	0	0
Franklin.....	0	0	2	9	3	0	0	0	0	0	0	0
Geary.....	0	2	0	1	45	7	0	0	0	0	0	6
Gove.....	0	0	0	0	0	2	0	0	0	1	0	0
Graham.....	0	0	0	1	1	0	0	0	0	0	0	0
Grant.....	0	0	0	0	0	0	0	0	0	0	0	0
Gray.....	0	0	2	4	0	0	0	0	0	0	0	0
Greeley.....	0	0	0	0	0	0	0	0	0	0	0	0
Greenwood.....	0	0	0	0	3	5	0	0	0	9	0	0
Hamilton.....	0	0	0	0	0	0	0	0	0	0	0	0
Harper.....	0	1	0	0	2	0	0	0	0	0	0	0
Harvey.....	0	0	0	0	0	0	0	0	0	0	0	0
Haskell.....	0	0	0	0	0	0	0	0	0	0	0	0
Hodgeman.....	0	0	0	0	0	0	0	0	0	0	0	0
Jackson.....	2	0	0	0	1	0	0	0	0	0	0	0
Jefferson.....	0	3	0	2	18	1	0	0	0	0	1	0
Jewell.....	0	0	0	0	0	0	0	0	0	0	0	0
Johnson.....	0	0	0	0	0	0	0	0	0	0	0	0
Kearny.....	0	0	0	0	0	0	0	0	0	0	0	0
Kingman.....	0	0	0	0	52	2	0	0	0	0	0	0
Kiowa.....	0	0	0	0	0	0	0	0	0	0	0	0
Labette,* except Parsons.....	1	3	1	0	16	6	0	0	0	3	2	0
Lane.....	0	0	0	0	0	0	0	0	0	0	0	1
Leavenworth, except Leavenworth city.....	0	2	1	0	38	1	0	0	0	3	1	2
Lincoln.....	0	4	3	0	23	2	0	0	0	2	0	0
Linn.....	0	0	0	0	0	1	0	0	0	1	0	0
Linn.....	0	0	0	1	0	2	0	0	0	0	0	0

MORBIDITY STATISTICS—Concluded.

COUNTIES.	Typhoid fever...	Diphtheria....	Scarlet fever....	Smallpox.....	Measles.....	Whooping cough.....	Measles.....	Polio....	Polio....	Mumps.....	Chicken pox....	Other communi- cable diseases.
Logan*.....	1	1	0	2	3	1	0	0	0	0	0	0
Lyon.....	0	0	0	0	0	0	0	0	0	0	0	0
Marion.....	0	0	0	0	0	0	0	0	0	0	0	0
Marshall.....	0	0	0	0	0	0	0	0	0	0	0	0
McPherson.....	0	0	0	0	14	0	0	0	0	0	0	0
Meade.....	0	0	0	0	2	0	0	0	0	0	0	0
Miami.....	0	0	0	0	1	0	0	0	0	0	0	0
Mitchell.....	0	0	0	0	1	0	0	0	0	0	0	0
Montgomery, except Coffeyville.....	0	2	0	17	101	2	0	0	0	5	1	0
Morris*.....	0	1	2	2	11	0	0	0	0	5	0	0
Morton.....	0	0	0	0	0	0	0	0	0	0	0	0
Nemaha.....	0	0	0	0	0	0	0	0	0	0	0	0
Neosho.....	0	0	0	7	5	1	0	0	0	11	2	0
Ness.....	0	1	0	0	0	0	0	0	0	0	0	0
Norton.....	0	0	0	0	0	2	0	0	0	1	0	1
Osage.....	1	0	1	0	0	0	0	0	0	0	0	0
Osborne*.....	0	0	0	3	0	0	0	0	0	1	3	0
Ottawa.....	0	0	0	0	0	0	0	0	0	0	0	0
Pawnee*.....	0	0	0	7	0	0	0	0	0	0	0	0
Phillips.....	0	0	0	1	0	0	0	0	0	0	0	0
Pottawatomie.....	0	0	0	0	10	0	0	0	0	0	0	0
Pratt.....	0	1	0	0	0	0	0	0	0	0	0	0
Rawlins.....	0	0	0	0	0	0	0	0	0	0	0	0
Reno,* except Hutchinson.....	0	0	10	0	1	3	0	0	0	0	3	0
Republic.....	1	0	0	0	3	2	0	0	0	0	0	0
Rice.....	0	0	0	0	0	0	0	0	0	0	0	0
Riley.....	1	0	0	0	5	0	0	0	0	107	0	0
Rooks.....	0	0	0	0	0	0	0	0	0	0	0	0
Rush*.....	0	0	0	0	0	0	0	0	0	0	0	0
Russell*.....	0	0	0	0	0	0	0	0	0	0	0	0
Saline*.....	0	0	0	0	0	1	0	0	0	0	0	0
Scott.....	0	0	0	0	2	3	0	0	0	0	0	0
Sedgwick, except Wichita.....	1	1	4	10	28	20	0	0	0	22	5	2
Seward.....	0	0	0	0	0	0	0	0	0	0	0	0
Shawnee, except Topeka.....	0	0	1	17	0	0	0	0	0	0	0	0
Sheridan*.....	0	2	0	11	5	0	0	0	0	0	26	0
Sherman.....	0	0	0	0	20	1	0	0	0	0	0	0
Smith.....	0	0	0	1	0	3	0	0	0	5	0	0
Stafford*.....	0	0	0	0	0	0	0	0	0	0	0	0
Stanton*.....	0	0	0	0	0	0	0	0	0	0	0	0
Stevens*.....	0	0	0	0	0	0	0	0	0	0	0	0
Sumner.....	0	0	0	0	197	5	0	0	0	0	0	5
Thomas*.....	0	0	0	0	0	0	0	0	0	0	0	0
Trego.....	0	0	0	0	0	0	0	0	0	0	0	0
Wabaunsee.....	0	0	0	0	1	0	0	0	0	0	0	0
Wallace.....	0	0	0	0	1	0	0	0	0	0	0	0
Washington.....	0	0	1	0	1	0	0	0	0	0	0	0
Wichita*.....	0	0	0	0	0	0	0	0	0	0	0	0
Wilson.....	0	0	0	1	5	0	0	0	0	3	0	0
Woodson.....	0	0	0	7	0	0	0	0	0	1	0	0
Wyandotte, except Kansas City*.....	0	0	0	3	0	0	0	0	0	0	2	0

* No report.

FOOD ANALYSIS L.**MARCH 1, 1914.**E. H. S. BAILEY, Director; W. S. LONG, Chief; AGNES ANDERSON, Analyst;
W. V. CULLISON, Assistant.**BAKING POWDERS.**

There were fifteen samples of baking powders analyzed with respect to available carbon dioxide (CO₂) value. All of these were found to be well above the standard in carbon dioxide content. One sample was found to contain a small amount of alum not declared on the label.

Insp. No.	Available carbon dioxide.	Remarks.
70345	16.64	Passed.
70346	10.81	Passed.
70347	14.13	Passed as to carbon dioxide. (See below.)
70348	13.74	Passed.
70349	16.64	Passed.
70350	17.02	Passed.
70351	13.93	Passed.
70352	17.25	Passed.
70353	17.52	Passed.
70354	12.46	Passed.
70355	14.49	Passed.
70356	12.09	Passed.
70357	13.95	Passed.
70358	16.20	Passed.
90507	11.25	Passed.

Insp. No. 70347. Label, "1 lb. Net Forbes' Finest Grade Pure Phosphate Baking Powder. Guaranteed not to contain Alum." Manufacturer, Jas. H. Forbes Tea & Coffee Co., St. Louis, Mo. Retailer, W. I. Branen, Pittsburg, Kan. Contains an aluminum compound not stated on the label, probably as an impurity since it is present to the extent of less than 1 per cent.

BEVERAGES.

Insp. No. 6803. Label, "Sweet Beverage Apple. Maybelle." Manufacturer, Grost-Grafft Co., Louisville, Ky. Retailer, Ninemyer, Beloit, Kan. Alcohol by volume, 3 per cent. Illegal. Label misleading in that it represents the beverage to be unfermented.

Insp. No. 20718. Label, "Grape Smash." Manufacturer, Tropical Fruit Juice Co., Chicago, Ill. Retailer, J. C. Whitmer & Co., Nortonville, Kan. An imitation grape product. Artificially colored. Illegal.

Insp. No. 20858. Label, "Grape Smash." Manufacturer, Tropical Fruit Juice Co., Chicago, Ill. Jobber, McPike Drug Co., Kansas City, Mo. Retailer, Brunt Drug Co., Topeka, Kan. An imitation grape product. Artificially colored. Illegal.

Insp. No. 70107. Label, "Nyman's Pure Malt Leader. Prepared from Malt and Hops for Temperance Drink." Manufacturer, Nyman's Extract Co., Chicago, Ill. Retailer, J. A. Green, Olsburg, Kan. Sold for preparing a temperance drink, but if prepared according to directions would produce a beverage containing alcohol in considerable quantities.

Attention is called to the fact that the majority of the so-called "ciders" now sold on the market are in violation of the prohibitory law, in that they contain a large amount of alcohol. They are made by diluting a syrup base and are artificially colored and flavored and have no just claim to the label "Cider." The average retail price is \$1 per gallon, a price out of proportion to the value of the drink as a temperance drink.

Insp. No. 90516. Label, "Crab Apple Cider." Manufacturer, Los Angeles Fruit Products Co., St. Louis Mo. Retailer, W. R. Weyand, Durham, Kan. Alcohol by volume, 10.65 per cent. Illegal.

Insp. No. 90517. Cherry Cider. Manufacturer, Los Angeles Fruit Products Co., St. Louis, Mo. Retailer, W. R. Weyand, Durham, Kan. Alcohol by volume, 9.04 per cent. Preserved with benzoate of soda and colored with coal-tar dye. Illegal.

Insp. No. 90518. Peach Cider. Manufacturer, Los Angeles Fruit Products Co., St. Louis, Mo. Retailer, W. R. Weyand, Durham, Kan. Alcohol by volume, 9.04 per cent. Preserved with benzoate of soda and colored with coal-tar dye. Illegal.

BUTTER, FRUIT.

Insp. No. 90379. Peach Butter. Passed.

Insp. No. 90380. Peach Butter. Passed.

Insp. No. 90386-A. Label, "Victorex Brand Peach Butter." Manufacturer or jobber, Davis Mercantile Co., Topeka, Kan. Retailer, M. M. Manning, Topeka, Kan. This butter was in bad condition; fermented and sour, with layer of mold on the top. Tin, 464 milligrams per kilogram of butter. This sample was canned in glass, but the high content of tin shows the probable use of canned material in its manufacture. Illegal.

Insp. No. 90386-B. Plum Butter. Passed.

Insp. No. 90386-C. Peach Butter. Passed.

Insp. No. 6900. Peach Preserves. Passed.

Insp. No. 90408. Label, "Silver Leaf Brand Peach Butter. $\frac{1}{2}$ of 1% Benzoate of Soda. Color Added." Manufacturer, Otto Kuehne Preserving Co., Topeka, Kan. Retailer, G. E. Stewart, Topeka, Kan. Material molded and fermented. Illegal.

Insp. No. 90426. Label, "The Davis Merc. Co., Topeka, Kan. Victorex Peach Butter." Manufacturer, Davis Mercantile Co., Topeka, Kan. Tin, 513 milligrams per kilogram of butter. This sample was packed in glass jars; hence the high tin content shows the use of tinned goods in the manufacture. Illegal.

Insp. No. 90427. Plum Butter. Tin, 215 milligrams per kilogram. Shows use of canned material in its manufacture.

CANDY.

Insp. No. 20807. Candy. Tested for arsenic and added mineral matter. Passed.

CATSUP.

Insp. No. 6749. Catsup. Passed.

Insp. No. 90508. Catsup. Passed.

CHERRIES.

Insp. No. 9772. Cherries. Passed.

CIDER.

Apple cider as sold on the Kansas market must be sweet cider. If it is fermented it is sold in violation of the prohibitory law as well as the food and drugs law.

Insp. Nos. 80393, 80394, 80395. These samples all reached the laboratory with the corks out of all the bottles; bottles leaking more or less. Samples not analyzed.

Insp. No. 90474. Apple Cider. Manufacturer, Allen Bottling Company, Wichita, Kan. Retailer, F. B. Linnebur, Garden Plain, Kan. Alcohol by volume, 6.10 per cent. Illegal.

Insp. No. 90479. Cider. Manufacturer, Los Angeles Fruit Products Co., St. Louis, Mo. Retailer, Geo. Bourn, Peabody, Kan. Alcohol by volume, 9.32 per cent. Illegal.

COCOA AND CHOCOLATE.

Insp. No. 70262. Cocoa. Passed.

COLOR PASTE.

Insp. No. 70047. Color Paste. Passed.

EXTRACTS AND FLAVORS.

Lemon extract should contain 5 per cent, by volume, of lemon oil.

Insp. No. 90526 $\frac{1}{2}$. Lemon Extract. Manufacturer, John T Milliken & Co., St. Louis, Mo. Retailer, J. B. Kelsey, Vinland, Kan. Lemon oil, 3.72 per cent. Illegal.

Insp. No. 9916. Label, "Jubilee Flavoring Extract Vanilla." Manufacturer, Central Mercantile Co., Hutchinson, Kan. Retailer, Botts & Griffin, Arkalon, Kan. Doubtful. Very low grade.

Insp. No. 70283. Label, "Harvest Home Pure Vanilla Extract. Serial No. 12150." Manufacturer, Jett & Wood Grocery Co., Wichita, Kan. Retailer, A B. Manson, Wellington, Kan. Colored with caramel. Illegal.

Insp. No. 70285. Label, "Harvest Home Brand Absolutely Pure Vanilla from Mexican Beans." Manufacturer, Jett & Wood Grocery Co., Wichita, Kan. Retailer, Alex Howe, Wellington, Kan. Colored with caramel. Illegal.

IMITATION AND COMPOUND EXTRACTS AND FLAVORS.

Insp No. 80365. Label, "Concentrated Extract of Imitation Banana." Manufacturer, Electric Medical Co., Burgess Brothers, Brookfield, Mo. Retailer, Coggins Bros., Ashland, Kan. This product should be labeled "Imitation Banana Flavor." The analysis does not indicate that it is concentrated. Illegal.

Insp. No. 80364. "Compound Extract of Lemon." Attention is called to the fact that the term "compound" has no real meaning when applied to extracts or flavors. It does not indicate an extra strength extract. Passed as to quality.

Insp. No. 7747. Imitation Strawberry Flavoring Extract. Vegetable color. Passed.

Insp. No. 20747. Label, "Strawberry Flavoring." Manufacturer, Evans Smith Drug Co., Kansas City, Mo. Retailer, C. H. Baskin, Junction City, Kan. Colored with cochineal. Illegal.

Insp. No. 9750. Label, "Imitation Flavor of Vanilla." Manufactured for the Western Pacific Tea Co., Wichita, Kan. Retailer, Western Pacific Tea Co., Wichita, Kan. Caramel present. Illegal.

Insp. No. 20767. Label, "Vanoleum." Manufacturer, Carrizo Extract Co., New York. Retailer, N. G. Edelblut, Topeka, Kan. This product is to be diluted by adding one pint of Vanoleum to two gallons of water to make a vanilla extract. It contains caramel. Illegal.

Insp. No. 20808. Label, "Vanilla Valoid." Passed as to color.

Insp. No. 80366. Label, "Vanilla Extract, Manufactured from Vanoleum." Manufacturer, Electric Medical Co., Brookfield, Mo. Retailer, Coggings Bros., Ashland, Kan. Caramel present. Illegal.

Insp. No. 90430. Label, "Pride Brand Vanilla, Vanillin & Coumarin Flavor." Jobber, the Dibble Grocery Co., Topeka, Kan. Retailer, R. E. Bell, Topeka, Kan. The term "Vanilla" is placed on the label in too prominent a position with reference to the terms "Vanillin & Coumarin Flavor"

Insp. No. 90432. Label, "Hygienic Pet Brand Imitation Vanilla Flavor." Manufacturer, Hygienic Manufacturing Co., Kansas City, Mo. Retailer, Klopfer Bros., Topeka, Kan. Colored with cochineal. Illegal.

Insp. No. 80139. "Compound Tincture of Vanillin." Sample too small for complete analysis.

Insp. No. 6895. Label, "The Sign of Purity. B. & R. Brand Extract of Soluble Lemon." Manufacturer, Brechet & Richter, Minneapolis, Minn. Retailer, W. Pappas, Salina, Kan. Artificially colored with turmeric. Illegal.

GLUCOSE PRODUCTS.

"Preserve" is the sound product made from clean, sound, properly matured and prepared fresh fruit and sugar (sucrose) syrup, with or without spices or vinegar, and conforms in name to that of the fruit used, and in its preparation not less than 45 pounds of fruit are used to each 55 pounds of sugar.

"Glucose Preserve" is preserve in which a glucose product is used in place of sugar (sucrose) syrup.

"Jam, Marmalade," is the sound product made from clean, sound, properly matured and prepared fresh fruit and sugar (sucrose), with or without spices or vinegar, by boiling to a pulpy or semisolid consistence, and conforms in name to the fruit or fruits used, and in its preparation not less than 45 pounds of fruit are used to each 55 pounds of sugar.

"Glucose Jam, Glucose Marmalade," is jam in which a glucose product is used in place of sugar (sucrose).

Products found in increasing numbers on the market at the present time are the fruit butters, jams, jellies and preserves prepared with corn syrup as their principal constituent. The use of corn syrup in this connection should be stated on the label in such a way as to give the consumer fair notice as to the kind of product he is getting, and the price should be proportionately lower than that of a product made of fruits and cane sugar.

Insp. No. 90161. Label, "Marmo Apple Butter. Made with approximately 50% Apples, 30% Corn Syrup, 20% Granulated Sugar and Spices. Contains added Phosphoric Acid." Manufacturer, Corn Products Refining Co., New York. Jobber, McCord-Kistler Mercantile Co., Topeka, Kan. Retailer, Fritton Grocery Co., Topeka, Kan. Misbranded in that the statement "Apple Butter," placed in a conspicuous manner on the label, and the statement "Made with approximately 50% Apples, 30% Corn Syrup, 20% Granulated Sugar," placed thereon in a less conspicuous manner, mislead and deceive the purchaser into the belief that the product is apple butter, when in truth and in fact it is glucose apple butter. Illegal.

Insp. No. 90171. Label, "Marmo Jam, made with approximately 45% Corn Syrup, 35% Fruit and Juice from Apple Trimmings, and 20% Granulated Sugar." Manufacturer, Corn Products Refining Co., New York. Retailer, Dibble Grocery Co., Topeka, Kan. Misbranded in that the words "Jam" and "Raspberry," so conspicuous on the label, and the statement "Made with approximately 45% Corn Syrup, 35% Fruit and Juice from Apple Trimmings, and 20% Granulated Sugar," so inconspicuous on the label, mislead and deceive the purchaser into the belief that the product is raspberry jam, when in fact it is a mixture of corn syrup, fruit and juice from apple trimmings, and sugar. Illegal.

Insp. No. 90187-A. Label, "Apollo Brand Corn Syrup Apple and Plum Jams. The contents of this package is prepared from approximately 75% Corn Syrup, 25% Apple Juice, with Plums, and $\frac{1}{10}$ of 1% Phosphoric Acid." Manufacturer, Corn Products Refining Co., New York. Distributor, St. Louis Syrup & Preserving Co., St. Louis, Mo. Jobber, Davis Mercantile Co., Topeka, Kan. Retailer, Thos. Horsfield, Topeka,

Kan. Misbranded in that the statement "Corn Syrup and Apple and Plum Jams," placed in a conspicuous manner on the label, and the statement "The contents of this package is prepared from approximately 75% Corn Syrup, 25% Apple Juice with Plums," placed thereon in an inconspicuous manner, mislead or deceive the purchaser into the belief that the product is a mixture of corn syrup apple jam and corn syrup plum jam, when in fact it is a mixture made from corn syrup plum jam and apple juice. Illegal.

Insp. No. 90187-B. Label, "Apollo Brand Corn Syrup Apple and Raspberry Jams. The contents of this package is prepared from approximately 75% Corn Syrup, 25% Apple Juice with Raspberries, and $\frac{1}{10}$ of 1% Phosphoric Acid." Manufacturer, Corn Products Refining Co., New York. Distributor, St. Louis Syrup & Preserving Co., St. Louis, Mo. Jobber, Davis Mercantile Co., Topeka, Kan. Retailer, Thos. Horsfield, Topeka, Kan. Misbranded in that the statement "Corn Syrup Apple and Raspberry Jams," placed in a conspicuous manner on the label, and the statement "The contents of this package is prepared from approximately 75% Corn Syrup, 25% Apple Juice with Raspberries," placed thereon in an inconspicuous manner, mislead or deceive the purchaser into the belief that the product is a mixture of corn syrup apple jam and corn syrup raspberry jam, when in fact it is a mixture made from corn syrup raspberry jam and apple juice. Illegal.

Insp. No. 90159. Label, "Marmo Jelly. Made with approximately 60% Corn Syrup, 27% Juice from Apple Trimmings and Fruit, and 13% Granulated Sugar, and contains added Phosphoric Acid. . . . Apple Flavor." Manufacturer, Corn Products Refining Co., New York. Jobber, McCord-Kistler Mercantile Co., Topeka, Kan. Retailer, Fritton Grocery Co., Topeka, Kan. Misbranded in that the statements "Jelly" and "Apple Flavor," placed on the label in large letters, and the statement "Made with approximately 60% Corn Syrup, 27% Juices from Apple Trimmings and Fruit, and 13% Granulated Sugar," placed thereon in smaller letters, mislead and deceive the purchaser into the belief that the product is jelly, apple flavor, when in fact it is glucose jelly, apple flavor. Illegal.

Insp. No. 90160. Label, "Rex Corn Syrup Apple Jelly. Made with approximately 75% Corn Syrup, 25% Juice from

Apple Trimmings." Manufacturer, Corn Products Refining Co., New York. Jobber, McCord-Kistler Mercantile Co., Topeka, Kan. Retailer, Fritton Grocery Co., Topeka, Kan. Misbranded in that the statement "Corn Syrup Apple Jelly," placed in a conspicuous manner on the label, and the statement "Made with approximately 75% Corn Syrup and 25% Juice from Apple Trimmings," placed thereon in a less conspicuous manner, mislead and deceive the purchaser into the belief that the product is corn syrup apple jelly, when in fact it is a mixture prepared from corn syrup and juice from apple trimmings. Illegal.

Insp. No. 5579. Label, "Magnolia Preserves. Strawberry-Apple. The contents of this package is made from approximately 50% Corn Syrup, 30% Fruit and Fruit Juices, 20% Granulated Sugar, with $\frac{1}{10}$ of 1% Phosphoric Acid." Manufacturer, St. Louis Syrup and Preserving Co., St. Louis, Mo. Retailer, Dibble Grocery Co., Topeka, Kan. Misbranded in that the statement "Preserves. Strawberry-Apple," placed in a conspicuous manner on the label, and the statement "The contents of this package is made from approximately 50% Corn Syrup, 30% Fruit and Fruit Juices, 20% Granulated Sugar," placed thereon in a very inconspicuous manner, mislead and deceive the purchaser into the belief that the product is a true fruit preserve, when in fact it is a product prepared from corn syrup, fruit juices, fruit and sugar. Illegal.

Insp. No. 90172. Label, "Tiger Brand Fancy Preserved Blackberries. . . . Contents of this package is prepared from Blackberries, Fruit Juices, Granulated Sugar and Corn Syrup, with $\frac{1}{10}$ of 1% Phosphoric Acid." Manufacturer, Corn Products Refining Co., New York. Distributors, St. Louis Syrup and Preserving Co., St. Louis Mo. Jobber, Davis Mercantile Co., Topeka, Kan. Retailer, Dibble Grocery Co., Topeka, Kan. Misbranded in that the expression "Fancy Preserved Blackberries," being made more conspicuous than the expression "Contents of this package is prepared from Blackberries, Fruit Juices, Granulated Sugar and Corn Syrup," misleads and deceives the purchaser into the belief that the product is blackberry preserve, when in fact it is a mixture prepared from blackberries, fruit juices, sugar and corn syrup. Illegal.

Insp. No. 90173. Label, "Tiger Brand Fancy Preserved Cherries. . . . Contents of this package is prepared from Cherries, Fruit Juices, Granulated Sugar and Corn Syrup, with $\frac{1}{10}$ of 1% Phosphoric Acid." Manufacturer, Corn Products Refining Co., New York. Distributors, St. Louis Syrup and Preserving Co., St. Louis, Mo. Jobber, Davis Mercantile Co., Topeka, Kan. Retailer, Dibble Grocery Co., Topeka, Kan. Misbranded in that the expression "Fancy Preserved Cherries," being made more conspicuous than the expression "Contents of this package is prepared from Cherries, Fruit Juices, Granulated Sugar and Corn Syrup," misleads and deceives the purchaser into the belief that the product is cherry preserve, when in fact it is a mixture prepared from cherries, fruit juices, sugar and corn syrup. Illegal.

Insp. No. 90186-A. Label, "Kairomel Corn Syrup Preserves. Made with approximately 60% Corn Syrup, 25% Fruit and Juice from Apple Trimmings, 15% Granulated Sugar. . . . Raspberry." Manufacturer, Corn Products Refining Co., New York. Jobber, Davis Mercantile Co., Topeka, Kan. Retailer, Whittelsey Mercantile Co., Topeka, Kan. Misbranded in that the statement "Corn Syrup Preserves. Raspberry," placed in a conspicuous manner on the label, and the statement "Made with approximately 60% Corn Syrup, 25% Fruit and Juice from Apple Trimmings, and 15% Granulated Sugar," placed in a less conspicuous manner on the label, deceive and mislead the purchaser into the belief that the product is a pure corn syrup raspberry preserve, when in fact it is a mixture made from corn syrup, fruit and juice from apple trimmings. Illegal.

Insp. No. 90186-B. Label, "Kairomel Corn Syrup Preserves. Made with approximately 60% Corn Syrup, 25% Fruit and Juice from Apple Trimmings, 15% Granulated Sugar. . . . Plum." Manufacturer, Corn Products Refining Co., New York. Jobber, Davis Mercantile Co., Topeka, Kan. Retailer, Whittelsey Mercantile Co., Topeka, Kan. Misbranded in that the statement "Corn Syrup Preserves. . . . Plum," placed in a conspicuous manner on the label, and the statement "Made with approximately 60% Corn Syrup, 25% Fruit and Juice from Apple Trimmings, and 15% Granulated Sugar," placed in a less conspicuous manner, deceive and mislead the purchaser into the belief that the product is a pure corn syrup plum preserve, when in fact it is a mixture made

from corn syrup, fruit and juice from apple trimmings. Illegal.

Insp. No. 90188-A. Label, "Marmo Preserves. Made with approximately 45% Corn Syrup, 35% Fruit and Juice from Apple Trimmings, and 20% Granulated Sugar. . . . Cherry." Manufacturer, Corn Products Refining Co., New York. Jobber, Davis Mercantile Co., Topeka, Kan. Retailer, Thos. Hosfield, Topeka, Kan. Misbranded in that the statement "Preserves," placed in a conspicuous manner on the label, and the statement "Made with approximately 45% Corn Syrup, 35% Fruit and Juice from Apple Trimmings, and 20% Granulated Sugar," placed thereon in a less conspicuous manner, mislead and deceive the purchaser into the belief that the product consists of pure preserves, when in fact it is a mixture of preserves and glucose preserves. Also misbranded in that the label represents the product as containing only 45 per cent corn syrup, when in fact it contains 68.4 per cent of corn syrup. Illegal.

Insp. No. 90188-B. Label, "Marmo Preserves. Made with approximately 45% Corn Syrup, 35% Fruit and Juice from Apple Trimmings, and 20% Granulated Sugar. . . . Peach." Manufacturer, Corn Products Refining Co., New York. Jobber, Davis Mercantile Co., Topeka, Kan. Retailer, Thos. Hosfield, Topeka, Kan. Misbranded in that the statement "Preserves," placed in a conspicuous manner on the label, and the statement "Made with approximately 45% Corn Syrup, 35% Fruit and Juice from Apple Trimmings, and 20% Granulated Sugar," placed thereon in a less conspicuous manner, mislead and deceive the purchaser into the belief that the product consists of pure preserves, when in fact it is a mixture of preserves and glucose preserves. Illegal.

JELLY.

"Jelly" is the sound, semisolid, gelatinous product made by boiling clean, sound, properly matured and prepared fresh fruit with water, concentrating the expressed and strained juice, to which sugar (sucrose) is added, and conforms in name to the fruit or fruits used in its preparation.

Insp. No. 6784. Label, "Tru Fruit Brand Strawberry, Apple and Sugar Jelly. The contents of this package is a compound of 30% Strawberry Juice, 30% Apple Juice, 40% Granulated Sugar." Manufacturer, Corn Products Refining Co., New York. Retailer, J. P. Preston, Rosedale, Kan. Misbranded

in that the statement "Tru Fruit Brand Strawberry, Apple and Sugar Jelly," placed on the label in a conspicuous manner, and the statement "The contents of this package is a compound of 30% Strawberry Juice, 30% Apple Juice, 40% Granulated Sugar," placed thereon in an inconspicuous manner, mislead and deceive the purchaser into the belief that the product is a pure fruit jelly, when in fact it is a product prepared from fruit juices and sugar. Illegal.

Insp. No. 6785. Label, "Tru Fruit Brand Raspberry, Apple and Sugar Jelly. The contents of this package is a compound of 30% Raspberry Juice, 30% Apple Juice, 40% Granulated Sugar." Manufacturer, Corn Products Refining Co., New York. Retailer, J. P. Preston, Rosedale, Kan. Misbranded in that the statement "Tru Fruit Brand Raspberry, Apple and Sugar Jelly," placed on the label in a conspicuous manner, and the statement "The contents of this package is a compound of 30 per cent Raspberry Juice, 30 per cent Apple Juice, 40 per cent Granulated Sugar," placed thereon in an inconspicuous manner, mislead or deceive the purchaser into the belief that the product is a pure fruit jelly, when in fact it is a product prepared from fruit juices and sugar. Illegal.

Insp. No. 90240. Label, "Weller's Pure Apple Jelly," Manufacturer, J. Weller Co., Cincinnati, Ohio. Retailer, Jones & Hart, Great Bend, Kan. Packed in tin. This sample contained a large amount of starch, and one can was fermented when opened. Not a pure apple jelly. Illegal.

Insp. No. 90409. Plum Jelly. Passed.

NUTS.

Insp. No. 70338. Walnuts. Passed.

Insp. No. 90471. Chile Bleached Walnuts. Jobber, National Biscuit Co., St. Joseph, Mo. Retailer, Louis Wiss, Topeka, Kan. Percentage of bad nuts, 45.45. Illegal.

OLIVE OIL.

Insp. No. 20815. Olive Oil. Passed.

Insp. No. 90387. Sweet Oil. Passed.

Insp. No. 90539. Olive Oil. Passed.

Insp. No. 90543. Olive Oil. Passed.

PICKLES.

Insp. No. 6903. Pickles. Passed.

Insp. No. 6904. Pickles. Passed.

Insp. No. 6905. Label, "Sweet Spiced Relish." Manufacturer, National Pickle & Canning Co., Dodson-Braun Branch, St. Louis, Mo. Retailer, M. M. Schultz, Clay Center, Kan. Contains alum. Illegal.

Insp. No. 6906. Pickles. Passed.

Insp. No. 6907. Pickles. Passed.

Insp. No. 90388. Sweet and Sour Gherkins. Passed.

Insp. No. 90407. Label, "Williams Sweet Relish Pickles. Net wt. 11 oz." Manufacturer, The Williams Bros. Co., Detroit, Mich. Jobber, The Davis Mercantile Co., Topeka, Kan. Retailer, William Gordon, Topeka, Kan. Declared on label, net weight 11 oz. Found net weight $9\frac{3}{4}$ oz. Shortage, 11.34 per cent. Illegal.

Insp. No. 90509. Pickles. Passed.

RICE.

Insp. No. 70110-A. Label, "McFadden's Apex Brand Unpolished Rice." Packer, McFadden-Weiss-Kyle Rice Milling Co., Beaumont, Tex. Sent in by J. L. Porter, M. D., Paola, Kan. The analysis indicates that this sample is both polished and coated. Illegal.

SYRUPS.

Insp. No. 70195. Sugar Butter. Passed.

Insp. No. 70196. Label, "Gate City Brand Sugar Butter. Maple Flavor. Made from Cane Sugar, Maple Syrup and Corn Syrup." Manufacturer, Kellogg Manufacturing Co., Keokuk, Iowa. Retailer, John J. Intfen, Atchison, Kan. Misbranded in that the product is conspicuously labeled "Sugar Butter. Maple Flavor," which statement is misleading, as the product is not sugar butter, but a mixture of sugar butter and corn syrup; in that the statement "Sugar Butter. Maple Flavor," placed in a conspicuous position on the label, and the statement "Made from Cane Sugar, Maple Syrup, and Corn Syrup," placed thereon in a very inconspicuous manner, mislead and deceive the purchaser into the belief that the product consists of pure sugar butter, when in fact the product is a mixture of sugar butter and corn syrup; in that the statement "Made from Cane Sugar, Maple Syrup and Corn Syrup" misleads and deceives the purchaser into the belief that the preponderant ingredients are cane sugar and maple syrup, while in truth and in fact one of the preponderant ingredients is corn syrup. Illegal.

(Continued in June Bulletin)

Things to Forget.

If you see a tall fellow ahead of a crowd,
A leader of men, marching fearless and proud,
And you know of a tale whose mere telling aloud
Would cause his proud head to in anguish be bowed,
It's a pretty good plan to forget it.

If you know of a skeleton hidden away
In a closet, and guarded, and kept from the day
In the dark; and whose showing, whose sudden display
Would cause grief and sorrow and lifelong dismay,
It's a pretty good plan to forget it.

If you know of a thing that will darken the joy
Of a man or a woman, a girl or a boy,
That will wipe out a smile, or the least way annoy
A fellow, or cause any gladness to cloy,
It's a pretty good plan to forget it.

—*Today's Magazine*, Dec. 15, 1911.

BULLETIN

OF THE

Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

S. J. CRUMBINE, M. D., Editor.

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JUNE, 1914.

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"Safety first" with the babies.

Troubles, like babies, grow larger by nursing.

To produce eggs that will stand the summer heat, swat the rooster!

There is room at the top because the elevator is n't always running.

Don't take your business or your troubles with you on your vacation.

When a man has finished his race in this world, he is out of breath.

It was worth while—the Summer School for Physicians and Health Officers.

Don't waste your time figuring why a black hen lays a white egg—get the egg.

A thing is worth precisely what it can do for you, not what you choose to pay for it.

Now is the time of year to cut out the meats and take on the fruits and vegetables.

Excessive quantities of iced drinks on excessively hot days often spell "Heat stroke."

The mole never waits for something to turn up—he goes right out and does 't himself.

MORBIDITY STATISTICS FOR MAY, 1914.

Number of Cases Reported to the State Board of Health.

COUNTIES.	Typhoid fever.	Diphtheria.	Scarlet fever.	Smallpox.	Measles.	Whooping cough.	Measles.	Pellagra.	Polio-myelitis.	Mumps.	Chicken pox.	Other communi- cable diseases.
THE STATE.....	81	29	65	241	1003	288	2	2	0	205	72	10
Allen.....	0	0	0	8	70	7	0	0	0	8	3	0
Anderson.....	0	0	0	0	3	0	0	0	0	0	0	0
Atchison,* except Atchison city.....	0	0	1	0	1	0	0	0	0	0	0	0
Barber*.....	0	0	1	11	3	0	1	0	0	0	0	0
Barton.....	0	0	0	0	1	0	0	0	0	2	0	0
Bourbon, except Fort Scott.....	1	0	0	0	0	25	0	0	0	0	3	2
Brown.....	0	0	0	0	1	0	0	0	0	2	0	0
Butler.....	0	0	0	6	26	40	0	0	0	18	0	1
Chase.....	2	0	0	0	1	0	0	0	0	0	0	0
Chautauqua.....	1	1	0	0	1	1	0	0	0	8	0	0
Cherokee.....	1	2	1	10	57	0	0	0	0	0	0	0
Cheyenne.....	0	0	0	0	0	0	0	0	0	0	0	0
Clark.....	0	0	0	0	0	0	0	0	0	0	0	0
Clay.....	3	0	0	2	9	0	0	0	0	9	4	1
Cloud.....	0	0	0	18	14	0	0	0	0	15	1	1
Coffey.....	0	0	0	0	1	0	0	0	0	0	1	1
Comanche*.....	1	1	0	0	17	0	0	0	0	0	9	0
Cowley.....	0	0	0	4	2	0	1	0	0	0	0	0
Crawford, except Pittsburg.....	0	2	4	18	30	0	0	0	0	1	1	0
Decatur.....	0	0	0	0	7	2	0	0	0	0	0	0
Dickinson.....	0	0	0	5	0	0	0	0	0	0	0	0
Doniphan.....	0	0	0	0	3	0	0	0	0	0	0	0
Douglas.....	0	0	0	0	35	0	0	0	0	1	0	1
Edwards.....	0	0	0	0	1	1	0	0	0	0	0	0
Ellis.....	0	0	0	1	0	0	0	0	0	0	0	0
Ellis*.....	1	0	0	0	2	0	0	0	0	0	5	0
Ellsworth.....	3	0	0	0	1	0	0	0	0	0	0	0
Finney*.....	0	1	0	14	19	0	0	0	0	2	0	0
Ford.....	0	0	0	0	27	0	0	0	0	0	0	1
Franklin.....	0	0	0	0	0	1	0	0	0	0	0	0
Gary.....	1	0	0	0	0	0	0	0	0	0	0	0
Gove.....	0	0	0	3	2	0	0	0	0	0	0	0
Graham.....	0	0	0	0	0	0	0	0	0	0	0	0
Grant.....	0	0	0	0	0	0	0	0	0	0	0	0
Gray.....	0	0	0	0	0	0	0	0	0	0	0	0
Greeley*.....	0	0	0	0	0	3	0	0	0	0	0	0
Greenwood.....	0	0	0	0	0	0	0	0	0	0	0	0
Hamilton*.....	0	0	1	0	7	17	0	0	0	0	1	0
Harper.....	0	2	0	2	0	0	0	0	0	0	0	0
Harvey.....	0	0	0	0	0	0	0	0	0	0	0	0
Haskell.....	0	0	0	0	0	0	0	0	0	0	0	0
Hodgeman*.....	0	0	1	0	2	0	0	0	0	2	0	0
Jackson.....	0	0	0	0	1	0	0	0	0	0	0	0
Jefferson.....	0	0	0	43	7	30	0	0	0	0	0	0
Jewell.....	0	0	0	0	0	0	0	0	0	0	0	0
Johnson*.....	0	0	0	0	0	0	0	0	0	0	0	0
Kearny.....	0	1	0	0	22	1	0	0	0	0	0	0
Kingman.....	0	0	0	0	0	0	0	0	0	0	0	0
Kiowa*.....	0	0	0	2	14	0	0	0	0	0	0	0
Labette, except Parsons.....	1	0	1	6	6	0	0	0	0	11	4	0
Lane.....	0	0	0	0	0	0	0	0	0	0	0	0
Leavenworth, except Leavenworth city..	0	0	0	0	5	2	0	0	0	2	0	0
Lincoln.....	1	7	4	0	47	5	0	0	0	2	1	0
Linn.....	0	0	0	0	21	0	0	0	0	0	0	0
Linn.....	0	0	0	6	18	1	0	0	0	0	2	0

MORBIDITY STATISTICS—Concluded.

COUNTIES.	Typhoid fever...	Diphtheria....	Scarlet fever...	Smallpox.....	Measles.....	Whooping cough.....	Memoritis.....	Pellagra.....	Polymyositis...	Kumps.....	Chicken pox...	Other communi- cable diseases.
Logan*.....	0	0	1	1	3	0	0	0	0	9	3	0
Lyon.....	0	0	1	1	0	5	0	0	0	0	1	0
Marion.....	0	0	0	0	0	0	0	0	0	0	0	0
Marshall.....	0	0	0	1	5	7	0	0	0	1	0	0
McPherson.....	0	0	0	0	0	5	0	0	0	0	0	0
Meade.....	0	0	0	1	1	0	0	0	0	0	0	0
Miami.....	0	0	1	3	0	0	0	0	0	0	0	0
Mitchell.....	0	0	1	1	17	0	0	0	0	3	1	0
Montgomery, except Coffeyville.....	0	0	3	5	4	0	0	0	0	2	1	0
Morris*.....	0	0	0	0	0	0	0	0	0	0	0	0
Morton.....	0	0	11	0	0	0	0	0	0	0	0	0
Nemaha.....	0	0	0	15	41	0	0	0	0	12	3	0
Neosho.....	0	0	0	0	0	3	0	0	0	4	0	0
Ness.....	1	0	0	0	0	12	0	0	0	0	0	0
Norton.....	0	6	0	0	1	0	0	0	0	2	7	0
Osage.....	0	0	0	0	0	0	0	0	0	0	0	0
Osborne*.....	0	0	2	0	3	4	0	0	0	3	0	0
Ottawa.....	0	0	0	5	2	0	0	0	0	0	0	0
Pawnee.....	0	0	0	4	0	0	0	0	0	0	0	0
Phillips.....	0	0	0	0	0	0	0	0	0	0	0	0
Pottawatomie.....	0	0	0	0	0	0	0	0	0	0	0	0
Pratt*.....	0	0	0	0	0	0	0	0	0	0	0	0
Rawlins.....	0	0	0	0	0	0	0	0	0	0	0	0
Renos,* except Hutchinson.....	0	0	3	0	3	0	0	0	0	2	3	0
Republic.....	0	0	0	0	0	2	0	0	0	0	0	0
Rice.....	2	0	0	10	5	0	0	0	0	0	0	0
Riley.....	1	0	2	0	9	3	0	0	0	61	0	1
Rooks.....	1	0	0	0	0	0	0	0	0	0	0	0
Rush.....	0	0	0	0	6	0	0	0	0	0	0	0
Russell*.....	0	0	0	0	1	27	0	0	0	0	0	0
Saline.....	0	0	0	0	0	0	0	0	0	0	0	0
Scott.....	0	0	0	0	0	0	0	0	0	0	0	0
Sedgwick, except Wichita.....	0	0	2	1	11	0	0	0	0	2	0	0
Wichita.....	0	0	11	4	132	15	0	1	0	13	9	0
Seward.....	0	0	0	0	0	0	0	0	0	0	0	0
Shawnee, except Topeka.....	0	0	3	0	0	0	0	0	0	0	0	0
Topeka.....	3	3	0	17	3	0	0	0	0	0	3	0
Sheridan*.....	0	0	0	0	3	3	0	0	0	0	0	0
Sherman.....	0	0	0	1	0	7	0	0	0	0	0	0
Smith.....	0	0	0	0	0	0	0	0	0	0	0	0
Stafford*.....	0	0	0	0	0	0	0	0	0	0	0	0
Stanton*.....	0	1	0	0	0	0	0	0	0	0	0	0
Stevens.....	1	0	0	0	253	49	0	0	0	3	0	1
Sumner.....	0	0	0	0	0	0	0	0	0	0	0	0
Thomas.....	0	0	0	0	0	4	0	0	0	0	4	0
Trego.....	0	0	0	0	0	0	0	0	0	0	0	0
Wabaunsee*.....	0	0	0	0	1	0	0	0	0	0	0	0
Wallace*.....	0	0	0	0	1	0	0	0	0	0	0	0
Washington.....	0	0	0	0	4	1	0	0	0	0	0	0
Wilson.....	0	0	3	0	0	0	0	0	0	0	1	0
Woodson.....	0	0	0	0	0	0	0	0	0	0	0	0
Wyandotte,* except Kansas City.....	0	0	0	3	3	0	0	0	0	0	1	0
State Institutions.....	0	0	0	0	0	0	0	1	0	0	0	0

* No report.

FOOD ANALYSIS L.

MARCH 1, 1914.

E. H. S. BAILEY, Director; W. S. LONG, Chief; AGNES ANDERSON, Analyst;
W. V. OULLISON, Assistant.*(Concluded from May Bulletin.)***SYRUPS.**

Insp. No. 90382. Label, "Idlewild Brand Syrup. 60% Maple Syrup, 40% Cane Syrup. A Delicious Blend of Pure Maple and Cane Syrup." Manufactured for the Davis Mercantile Co., Topeka, Kan. Manufacturer, Oelrich-Mayborn Syrup Co., Chicago, Ill. Contains much less than 60 per cent of maple syrup. Illegal.

TOMATOES.

Insp. No. 07008. Tomatoes. Passed.

Insp. No. 07009. Tomatoes. Passed.

Insp. No. 07010. Tomatoes. Passed.

Insp. No. 07011. Tomatoes. Passed.

Insp. No. 07012. Tomatoes. Passed.

Insp. No. 07013. Tomatoes. Passed.

Insp. No. 07014. Tomatoes. Label, "Baby Brand Tomatoes." Manufacturer, Roland Webster, Hurlock, Md. Jobber, Watson, Durand, Kasper Grocery Co., Salina, Kan. Retailer, A. Gehr, Salina, Kan. Contains added water. Illegal.

Insp. No. 07015. Tomatoes. Passed.

Insp. No. 07016. Tomatoes. Passed.

Insp. No. 70332. Label, "Western Star Brand Tomatoes. Contents 1 lb. 9 oz." Manufacturer, Appleby Bros. Co., Fayetteville, Ark. Jobber, Fort Scott Wholesale Grocery Co., Fort Scott, Kan. This number applies to a case of twelve cans labeled "Contents 1 lb. 9 oz." The average net weight was found to be 1 lb. 8.3 oz. Average shortage, 2.8 per cent. Illegal.

VINEGAR.

Insp. No. 6776. Label, "Silver Leaf Brand." Manufacturer, Otto Kuehne, Topeka, Kan. Retailer, E. S. Jarvis, Phillipsburg, Kan. Below standard. Illegal.

Insp. No. 6896. Cider Vinegar. Manufacturer, Monarch Vinegar Co., Kansas City, Mo. Retailer, Inter-City Grocery Co., Kansas City, Kan. Below standard. Illegal.

Insp. No. 6897. Cider Vinegar. Manufacturer, Monarch Vinegar Co., Kansas City, Mo. Retailer, Inter-City Grocery Co., Kansas City, Kan. Below standard. Illegal.

Insp. No. 6898. Sugar Vinegar. Passed.

Insp. No. 6899. Imitation Vinegar. Passed.

Insp. No. 6901. Label, "Paragon Brand Pure Cider Vinegar." Manufacturer, K. C. Preserving Co., Kansas City, Mo. Retailer, Paul Polster, Kansas City, Kan. Below standard. Illegal.

Insp. No. 20809. Cider for Vinegar. Sample reached laboratory with bottle broken.

Insp. No. 70289. Apple Vinegar. Passed.

Insp. No. 70307. Label, "Red Bar Brand Cider Vinegar. Diluted 4% Acid Strength." Manufacturer, Shawnee Cider & Vinegar Works, Topeka, Kan. Retailer, J. Crit Stewart, Topeka, Kan. Below standard. Illegal.

Insp. No. 70308. Label, "Red Bar Brand Cider Vinegar." Manufacturer, Shawnee Cider & Vinegar Works, Topeka, Kan. Retailer, J. Crit Stewart, Topeka, Kan. Below standard. Illegal.

Insp. No. 70309. Label, "Victorex Pure Cider Vinegar." Manufacturer, Davis Mercantile Co., Topeka, Kan. Retailer, F. M. Newland, Topeka, Kan. Below standard. Illegal.

Insp. No. 70310. Label, "Victorex Colored Distilled Vinegar." Manufacturer, Dayis Mercantile Co., Topeka, Kan. Retailer, F. M. Newland, Topeka, Kan. Not distilled vinegar. Illegal.

Insp. No. 70311. Label, "Jayhawk Brand Apple Vinegar." Jobber, McCord-Kistler Mercantile Co., Topeka, Kan. Retailer, F. M. Newland, Topeka, Kan. Below standard. Illegal.

Insp. No. 70312. Label, "Sheeps Head Brand 24 oz. Pure Cider Vinegar." Manufacturer, Letts-Spencer Grocer Co., St. Joseph, Mo. Retailer, D. T. Mote, Topeka, Kan. Below standard. Illegal.

Insp. No. 70328. Cider Vinegar. Passed.

Insp. No. 70329. Label, "Red Rambler Brand Distilled Vinegar. Artificially Colored." Manufacturer, Otto Kuehne Preserving Co., Topeka, Kan. Retailer, Dibble Grocery Co., Topeka, Kan. Not a distilled vinegar. Illegal.

Insp. No. 70330. Vinegar. Retailer, H. Offen, Topeka, Kan. Below standard. Illegal.

Insp. No. 70331. Label, "Red Rambler Brand Pure Cider Vinegar." Manufacturer, Otto Kuehne Preserving Co., Topeka, Kan. Retailer, Frank Fletcher, Topeka, Kan. Below standard. Illegal.

Insp. No. 90325. Sugar Vinegar. Passed.

DRUG ANALYSIS XLIX.

L. E. SAYRE, Director; L. D. HAVENHILL, Chief; G. N. WATSON, Analyst;
C. M. STERLING, Microscopist.

In the report of the drug laboratory, which follows, it may be stated that the analysis of the various samples of spices which come to the laboratory shows a steady improvement in the quality.

The linseed oils show an average which indicates an improvement, yet there is still room for greater increase in this respect. The adulterants of linseed oil are now becoming so very adroit that it is difficult to detect them. There is one of the fish oils used, which has a drying quality, and which, by boiling, so resembles the linseed oil in its physical and chemical properties that it requires expert and tedious work to detect them, especially when they are in comparatively small proportions. The drug laboratory, however, is making some progress in its investigational work and is producing delicate reactions which will determine small quantities of adulterants, such as fish oils, not only qualitatively but quantitatively.

The aspirin tablets reported were supposed to be five-grain tablets. Three of these tablets are sufficiently close to the figures to be passed, perhaps. No. 6291, sold as a compound aspirin tablet, contained only a trifle over three grains of aspirin, the other part of the substance being made up of ingredients supposed to be included in the word "compound."

It is a question whether this word "compound" should be recognized when there is no official authority for such recognition. It is true any one can put up a compound aspirin tablet, but in order that it shall have professional recognition it would seem that the formula for such a compound should be published in some authoritative work. Such products should be free, so that their chemical properties as well as physiological properties may be impartially discussed in medical journals, societies and colleges. This would at least protect the educational machinery of medicine and pharmacy and secure the co-

operation of the medical and pharmacy professions in the introduction of the product to science. The popularizing of compounds of such a nature by individuals without the sanction of the coöperative workers is, to say the least, antagonistic to pharmaceutical progress. To avoid this indiscriminate use of the word "compound" and other coined words, it has been suggested by the committee on national legislation that some kind of control, representing the medical and pharmacy professions and the manufacturing agencies in legitimate chemical and pharmaceutical industries, be introduced, the same to work in coöperation with the universities, medical schools and colleges, government laboratories, etc. The boards of health should take recognition of such constructive forms of control and devise some means by which legitimate compounds may be regarded as legitimate and possibly official.

In this report there are items which are indefinitely designated, such as "tablets," "syrups," "magnetic oils," etc. These articles were sent to the laboratory by physicians and pharmacists with no other designation than the one given, and therefore should not be considered as the regular inspectors' samples.

TINCTURE OF GINGER.*

Lab. No.	Insp. No.	Name.	City.	Gms. extractive per 100 cc.	Per cent alcohol.
6290	20810	Arnold Drug Co.	Topeka.....	3.80	82.6
6292	20813	J. M. Bowen	Atchison.....	.37	92.5
6302	20847	O. P. Barber & Son	Lawrence.....	.85	87.3

* Tincture of ginger should contain about 0.8 gram extractive per 100 cc. and about 91 per cent absolute alcohol.

SPIRIT OF CAMPHOR.*

Lab. No.	Insp. No.	Name.	City.	Gms. camphor.	Per cent added water.
6245	20753	W. A. O. White.....	Holiday.....	10.70	11.0
6250	20758	Toney Jordan Grocery.....	Topeka.....	8.94	.....
6264	80390	J. M. Ferguson.....	Topeka.....	9.00	.....

* Spirit of camphor should contain 10 grams of camphor in 100 cc. and no added water.

CINNAMON.*

Lab. No.	Insp. No.	Name.	City.	Per cent ash	Per cent ash in sol. in HCl	Per cent total ether ext.	Per cent vol. ether ext.	Net wt., gms.
6281	90487	Davis Mercantile Co.....	Topeka...	3.67	0.33	3.76	1.38	59
6276	90420	McCord-Kistler Merc. Co.....	Topeka...	4.26	.46	2.74	1.13	42
6288	90451†	Davis Mercantile Co.....	Topeka...			4.94	2.26	

* Ground cinnamon should contain not less than 0.5 per cent volatile ether extract and not more than 6 per cent total ash, and not more than 2 per cent sand.

† Unground.

CLOVES.*

Lab. No.	Insp. No.	Name.	City.	Per cent ash.	Per cent ash in sol. in HCl.	Per cent ether ext.	Per cent vol. ether ext.	Per cent quercitannic acid.	Net wt., gms.
6282	90438	Davis Merc. Co.....	Topeka...	6.5	0.36	21.77	15.33	20.1	54
6278	90422	McCord-Kistler Merc. Co.....	Topeka...	6.5	.40	20.11	18.66	23.7	31

* Cloves should contain not less than 10 per cent volatile ether extract; not less than 12 per cent quercitannic acid; not more than 0.5 per cent ash insoluble in hydrochloric acid, and not more than 10 per cent crude fiber.

GINGER.*

Lab. No.	Insp. No.	Name.	City.	Per cent ash.	Per cent ash in sol. in HCl.	Per cent ether ext.	Per cent vol. ether ext.	Per cent crude fiber.	Per cent starch.
6286	90442	Davis Merc. Co....	Topeka...	9.12	0.94	7.21	1.31	4.5	48.1
6273	90417	McCord-Kistler Merc. Co.....	Topeka...	4.89	.95	7.38	1.07	4.5	53.2

* Ginger should contain not less than 42 per cent starch; not more than 8 per cent crude fiber; not more than 6 per cent total ash, not more than 3 per cent insoluble in hydrochloric acid.

PEPPER.*

Lab. No.	Insp. No.	Name.	City.	Per cent ash.	Per cent ash in sol. in HCl.	Per cent ether ext.	Per cent vol. ether ext.	Per cent crude fiber.	Per cent starch.
6284	90440	Davis Merc. Co....	Topeka...	5.31	0.67	8.17	0.41	13.6	36.5
6274	90418	McCord-Kistler Merc. Co.....	Topeka....	1.11	.19	8.27	.44	3.5	57.9
6275	90419	McCord-Kistler Merc Co.....	Topeka....	5.99	1.30	8.68	.50	12.9	34.5

* White pepper should contain not less than 6 per cent nonvolatile ether extract; not less than 50 per cent starch; not more than 0.5 per cent ash insoluble in hydrochloric acid; not more than 5 per cent crude fiber, and not more than 4 per cent total ash. Black pepper should contain not less than 6 per cent of nonvolatile ether extract; not less than 25 per cent of starch; not more than 7 per cent total ash; not more than 2 per cent ash insoluble in hydrochloric acid, and not more than 15 per cent crude fiber.

ALLSPICE.*

Lab. No.	Insp. No.	Name.	City.	Per cent ash.	Per cent ash insol. in HCl.	Per cent crude fiber.	per cent quercitannic acid.	Per cent ether ext.
6287	90443	Davis Merc. Co.	Topeka....	5.02	0.05	25.0	10.5	6.61
6271	90415	McCord-Kistler Merc. Co..	Topeka....	4.96	.26	24.2	10.8	7.41

* Allspice should contain not less than 8 per cent quercitannic acid; not more than 6 per cent total ash; not more than 0.5 per cent ash insoluble in hydrochloric acid, and not more than 25 per cent crude fiber.

MUSTARD.*

Lab. No.	Insp. No.	Name.	City.	Per cent moisture.	Per cent ash.	Per cent ether ext.	Per cent vol. ether ext.	Per cent starch.
6224	90378	Wichita Wholesale Grocery Co.	Wichita...	6.9	5.3	21.09	0.49	5.2
6277	90421	McCord-Kistler Merc. Co..	Topeka....	4.81	4.81	27.54	.00	3.9

* Ground mustard should contain not more than 2.5 per cent starch and not more than 8 per cent total ash.

GROUND MACE.*

Lab. No.	Insp. No.	Name.	City.	Per cent ash.	Per cent ash insol. in HCl.	Per cent nonvol. ether ext.	Per cent crude fiber.
6279	90435	Davis Mercantile Co.	Topeka....	2.98	0.32	30.11	4.8

* Mace should contain not less than 20 per cent nor more than 30 per cent of non-volatile ether extract; not more than 3 per cent total ash; not more than 0.5 per cent ash insoluble in hydrochloric acid, and not more than 10 per cent crude fiber.

PAPRIKA.*

Lab. No.	Insp. No.	Name.	City.	Per cent ash.	Per cent ash insol. in HCl.	Per cent ether ext.	Per cent vol. ether ext.
6280	90436	Davis Mercantile Co.	Topeka....	7.75	0.53	16.34	0.56

* Paprika is the dried ripe fruit of capsicum annuum or some other large-fruited species of capsicum, excluding seeds and stems.

CAYENNE.*

Lab. No.	Insp. No.	Name.	City.	Per cent ash.	Per cent ash insol. in HCl.	Per cent ether ext.	Per cent vol. ether ext.	Per cent crude fiber.	Per cent starch.
6285	90441	Davis Merc. Co....	Topeka ...	5.52	0.56	17.24	0.27	28.03	1.1

* Cayenne pepper should contain not less than 15 per cent nonvolatile ether extract; not more than 6.5 per cent total ash; not more than 0.5 per cent ash insoluble in hydrochloric acid; not more than 1.5 per cent of starch, and not more than 28 per cent of crude fiber.

LINSEED OIL.*

Lab. No.	Insp. No.	Name.	City.	Specific gravity	Sapon. value.	Iodine No.	Drying test.	Per cent fatty acids.	Remarks.
6066	†20514	A. R. Elwick.	Abilene.....	0.934	187.00	168.69	20 hrs.	.....	Passed.
6104	†20579‡	G. Thomas	.....					
		Lumber Co.,	Silver Lake,	.927	193.20	156.11	20 hrs.	.....	Passed.
6341	‡90404	C. H. Pedroja,	Hill City....	.939	196.34	183.80	120 hrs.	91.77	Passed.
6342	†20869	.....	.....	.893	100.33	96.94	§.....	53.50	Adul.
6362	†.....	.....	.....	.919	149.19	132.10	§.....	.....	Adul.

* Raw linseed oil and boiled linseed oil should conform to standards published in Bulletin No. 5, 1912.

† Boiled. ‡ Raw. § Soft opaque coat.

ASPIRIN TABLETS.

Lab. No.	Insp. No.	Name.	City.	Gr. acetyl. salicylic acid per tablet.
6291	20812	{ R. C. Hulburd.....	Wamego.....	3.042
(Omp.)				
6297	20831		Leavenworth.....	4.390
6296	20818		Leavenworth.....	4.490
6301	20846		Lawrence.....	4.260

Lab. No. 4719, Insp. No. 8753 "Tr. Catechu." Contained 36.2 per cent alcohol.

Lab. No. 5333, Insp. No. 80177. "Paregoric." L. Lay, Weir City. Contained benzoic acid 0.3684 gm. and total alkaloid 0.0736 gm. per 100 cc. Camphor and oil of anise were present.

Lab. No. 5701, Insp. No. 20239. "Wine of Beef and Iron." Dr. G. S. Wilcox, Feehart. Contained alcohol, 14.6 per cent; iron, 0.28 per cent; protein, 1.36 per cent.

Lab. No. 5958, Insp. No. 20467. "Aromatic F. E. Cascara." Grandview Drug Company, Kansas City. Contained 9.2 per cent alcohol. Low in alcohol content.

Lab. No. 5963, Insp. No. 20474. "Brown Mixture." Contained 3.5 per cent alcohol. Low in alcohol content.

Lab. No. 6139, Insp. No. 20614. "Pills of Asafœtida." A. F. Backer, Perry. Weight of pill, 0.288 gm. Ash, 8.46 per cent; alcohol soluble matter, 51.4 per cent; alcohol insoluble matter, 48.6 per cent. Contained glycyrrhiza. Did not contain soap. Not made according to official formula.

Lab. No. 6182, Insp. No. 20703. "Tr. Arnica." H. E. Jenkins, Seneca. Contained alcohol, 43.1 per cent; extractive, 3.8 gms. per 100 cc. Passed.

Lab. No. 6215, Insp. No. 20735. "Potassium Chlorate Tablets." Hoisington Drug Company, Hoisington. Contained 4.99 grs. per tablet. Passed.

Lab. No. 6217, Insp. No. 20737. "Essence of Pepsin." Pokorny Pharmacy, La Crosse. Showed by official assay 1.4 cc. undigested albumen. Passed.

Lab. No. 6244, Insp. No. 20752. "Chloroform." Brokan and McKnight, Hiawatha. Specific gravity, 1.4770. Negative test for chlorides, chlorine, odorous decomposition products and chlorinated decomposition products. Passed.

Lab. No. 6252, Insp. No. 20760. "Asafoetida." F. R. Ireland, Wellsville. Ash. 4.03 per cent; alcohol soluble matter, 78.6; alcohol insoluble matter, 21.4 per cent. Passed.

Lab. No. 6255, Insp. No. 20763. "Elixir Iron and Quinine with Strychnine Phosphate." Dr. E. J. Pendleton, Wellsville. Specific gravity, 1.1085; alkaloid per 100 cc., 0.7064 gm.; total solids, 26.7 gms. per 100 cc.; alcohol, 8.1 per cent. Slightly deficient in alkaloid.

Lab. No. 6294, Insp. No. 20817. "Fowler's Solution." Cleverdon Bros., Leavenworth. Contained 0.805 per cent arsenic trioxide.

Lab. No. 6296, Insp. No. 20830. "Elixir Iron, Quinine and Strychnine, N. F." Ed. C. Fritsche, Leavenworth. Specific gravity, 1.1022. Solids per 100 cc., 33.41 gms.; total alkaloids per 100 cc., 0.767 gm.; alcohol, 20.4 per cent; iron, 0.34 per cent. Slightly deficient in alkaloid.

Lab. No. 6309, Insp. No. 80400. "Oil of Eucalyptus." S. W. Campbell, Chanute. Specific gravity, 0.9188; soluble in 3 volumes 70 per cent alcohol; soluble in all proportions of alcohol; refractive index, 1.4594 at 20° C.; rotation in 100 mm. tube, 1.620; does not give nitrite test for phellandrene; contains 54 per cent cineol. Passed.

Lab. No. 6336, Insp. No. 90536. "Turpentine." Bigelow and Foster Mercantile Company, Gardner. Residue, 0.86 per cent; specific gravity, 0.8658; 84.5 per cent came over between 155° and 162° C. Soluble in 3 volumes of alcohol. Gives negative test for tar oils. Passed.

Lab. No. 6359, Insp. No. —. "Fluid Extract of Unicorn Root." Extractive per 100 cc., 8.617 per cent; alcohol, 47.5 per cent; specific gravity of sample, 0.9478.

Lab. No. 6559½, Insp. No. —. "Concentrated Tincture of Aletris." Extractive per 100 cc., 36.5 gms.; alcohol, 63.3 per cent; specific gravity of sample, 0.9056.

Lab. No. 6360, Insp. No. —. "Whiskey." Specific gravity, 0.9306; total solids, 2.07 gms. per liter; fusel oil, 2.37 gms.

per liter; acid, 0.84 gm. per liter; furfural, 0.013 gm. per liter; esters, 0.72 gm. per liter. Contained artificial coloring. Sample said to have produced disagreeable symptoms. Probably due to excess of fusel oil.

Lab. No. 5723, Insp. No. 80266. "Syrup of chloral hydrate." J. W. Brown's Drug Store, Topeka. Contains chloral hydrate, valerian and potassium bromide. Bromides, calculated as potassium bromide, 6.96 per cent.

Lab. No. 5765, Insp. No. 20259. "Cough syrup." A. & A. Drug Store, Great Bend. Contains wild cherry, opium and methyl salicylate. Opium and ether were declared. No other detected.

Lab. No. 5989, Insp. No. 20505. "Derma Zema and Skin Soap." J. J. Reeder, Kansas City. A sodium soap evidently made from lard. Contained a zinc salt, equivalent to 0.34 per cent zinc oxide.

Lab. No. 6299, Insp. No. 20844. "Elixir Resorcin Comp." Doctors Walker and Bennett, Eskridge. Contained 7.5 per cent alcohol. Official pepsin assay showed 13 cc. undigested albumen or about 50 per cent of declared pepsin strength. Resorcin, strychnine and alkaloids of hydrastis were detected.

Lab. No. 5960, Insp. No. 20469. "Dionin Comp. Tablets." Berberine, arsenic trioxide, creosote, calcium salt and dionin were detected.

Lab. No. 6081, Insp. No. ——. "Sarsaparilla and Burdock Comp." E. J. Covert, Phillipsburg. Sample too small for analysis.

Lab. No. 6083, Insp. No. 6796, "Laxative Syrup." E. J. Covert, Phillipsburg. Contained cascara; flavored with peppermint and methyl salicylate. Sample was too small for complete analysis.

Lab. No. 6084, Insp. No. 6794. "Extract of Cod Liver Oil Tonic." E. J. Covert, Phillipsburg. Solids per 100 cc., 33 gms.; ash per 100 cc., 0.361 gm. Small amount hypophosphites present. Ash gives negative test for iodides, bromides and chlorides. Sample too small for complete analysis.

Lab. No. 6189, Insp. No. 20709. "Morphine Sulphate Tablets 1/4 gr." Dr. G. N. Liston, Baldwin. Contained 0.27 gr. morphine sulphate per tablet. Passed.

Lab. No. 6232, Insp. No. 90406. "Horse Radish Roots." Prepared by Byron Willcuts, Topeka. No foreign matter de-

tested. Contained acid, calculated as acetic acid, 1.42 per cent; sodium chloride, 1.36 per cent. Passed.

Lab. No. 6241, Insp. No. 20749. "Syrup of White Pine Comp. without Morphine or Chloroform." Geo. McClaren, Troy. Negative test for alkaloids. Negative test for chloroform and acetanilid.

Lab. No. 6247, Insp. No. 20755. "Kinkles Pills." Doctor Crawford, Gardner. Aloin, ginger, alkaloids and podophyllum were detected. According to formula each should contain 0.056 gm. medicinal matter. Weight of pill, 0.1955 gm.; weight of coating, 0.1290 gm. Weight of contents, 0.0665 gm. Passed.

Lab. No. 6253, Insp. No. 20761. "Mixture Sedans." D. T. Reid, Wellsville. Alkaloid per 100 cc., 0.01 gm. Responded to test for hydrastine; contained trace of bromides. Negative test for acetanilid and chloroform. Contained 18.6 per cent alcohol.

Lab. No. 6254, Insp. No. 20762. "Elixir Poppy Comp." Dr. T. W. Reid, Wellsville. Sample too small for analysis.

Lab. No. 6300, Insp. No. 20845. "Aromatic Solution of Pepsin." E. R. Brown, Eskridge. Showed practically no digestive power.

Lab. No. 6315, Insp. No. 20854. "Peroxide Vegetable Soap." G. W. Flad, Topeka. Contained not more than .0005 per cent H_2O_2 . Contained zinc, presumably as zinc oxide. Sample was made, at least partially, from cocoanut oil.

Lab. No. 6330, Insp. No. 90496. "McMillens Liquid Coffee." Contained caffeine, 0.25 per cent. Extractive, 5.27 per cent; caffeine in extract, 4.84 per cent. Sample represents 20 gms. coffee per 100 cc. Directions with this preparation are to use two tablespoonfuls of the liquid and sufficient hot water to make one cup. Coffee brew made by these directions does not produce a product equal to the decoction made from the freshly ground coffee bean.

Lab. No. 6331, Insp. No. 90512. "Ground Coffee." Lime Bros., Lincolnville. The H. D. Lee Mercantile Company, Salina, jobber. Moisture, 4.88 per cent; ether extract, 15.24 per cent; aqueous extract, 22 per cent; caffeine, 1.51 per cent; ash, 3.8 per cent; ash, soluble, 75 per cent; ash, insoluble, 25 per cent. Sample contains sticks and over-roasted grains. The size of the grains is very irregular, having appearance of screenings from a steel-cut coffee.

Lab. No. 6332, Insp. No. 5193. "Tablets." F. L. Preston, M. D., El Dorado. No. 1 contained sugar, corn starch, glycyrrhiza and small amount of nonalkaloidal bitter principle. No. 2 contained starch, strychnine and bismuth subcarbonate.

Lab. No. 6333, Insp. No. 5194. "Syrup." Sample contained 4.11 gms. potassium iodide per 100 cc.; contained 41 per cent sugar. Sample was evidently a solution of potassium iodide in imitation syrup of sarsaparilla.

Lab. No. 6337, Insp. No. ——. "Silver Plating Liquid." Found to be a solution of mercuric nitrate.

Lab. No. 6343, Insp. No. ——. "Magnetic Oil." Contained alcohol, chloroform, capsicum, oil of sassafras, oil organum and opium.

Lab. No. 6361, Insp. No. ——. "Oxylene." A tooth powder used as a remedy for diseases of the gums. Contained calcium carbonate, 91.8 per cent; moisture, 1.16 per cent; organic matter, 7.04 per cent. The organic matter was composed of cinchona, 3.52 per cent; small amounts of mucilaginous matter and phenolic compound.

Lab. No. 6338, Insp. No. 5197. "Poultry Powder." Contained sulphur, 4 parts; charcoal, 1 part; oxide of iron, 4 parts; gentian, 1 part.

Lab. No. 6363, Insp. No. 5196. "Pills." Contained quinine, sulphate of iron and small amounts of powdered drug.

Lab. No. 6364, Insp. No. ——. "Pepsin Tonic." Manufactured by C. D. Smith Drug Company, St. Joseph, Mo. Contained about 0.143 gm. pepsin per 100 cc.; 31.3 per cent alcohol; invert sugar, 2.83 gm. per 100 cc.; sucrose, 0.02 gm. per 100 cc. A small amount of gentian was present.

Lab. No. 6294, Insp. No. 20817. "Fowler's Solution." Cleverdon Bros., Leavenworth. Contained 0.805 per cent arsenic trioxide.

Lab. No. 6296, Insp. No. 20830. "Elixir Iron, Quinine and Strychnine, N. F." Ed. C. Fritsche, Leavenworth. Specific gravity, 1.1022; solids per 100 cc., 33.41 gms.; total alkaloids per 100 cc., 0.767 gm.; alcohol, 20.4 per cent; iron, 0.34 per cent.

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The Public Penholder as a Carrier of Disease.

By LEON A. CONGDON, B. S., Advisory Member of Kansas State Board of Health.

We have often heard the saying that "The pen is mightier than the sword," but have you ever stopped to consider that the public penholder is a mighty carrier of disease germs?

Walk into any hotel, post office, bank, or public writing-room, public library or office, and what do you see? A motley assortment of penholders on the writing desk. "Pray what is wrong about that?" you ask. Let us examine the penholder more carefully. Look at the dents in their wooden handles. One would think that these dents are a sign language handed down to us from the dark ages. No, kind friend, those dents are the imprints of human teeth.

Verily, verily, there is death in those human teeth imprints. Science teaches us that the mouth is the common portal of entry for disease. How often we see all classes of people while folding a letter after it is written ready to put into the envelope, put the penholder in the mouth, fold the letter, take the penholder out of the mouth, address the letter, and then lay the penholder down on the public desk for some one else to use!

The writer does not desire to lay himself liable to criticism for being a "crank" on the germ theory, but would it not be wise to do away with the public penholder? We have read of the dangers of the public drinking cup, the insanitary finger bowl, the insanitary cigar cutter, unclean dishes and silver in a restaurant or hotel, but have you ever considered the danger attached to the insanitary practice of holding a public penholder in your mouth? Think it over, kind friend, think it over.

An investigation will very soon be carried on by the laboratory of Kansas State Board of Health in regard to data of the number and forms of organisms found on public penholders collected in various parts of the state.

My Prayer.

O Lord! I acknowledge Thy existence—also the existence of a whole lot of other things, more or less godly, and which I can overcome only by the help of my own backbone. I fully realize that on every hand are invisible forces that seek my destruction, and that, if I am to come through unscathed, I must fight every inch of the way.

Give me strength to lightly bear my burden of living, and to smile until my burden becomes a joy, for verily this is the secret of all earthly gladness.

Teach me that sixty minutes make an hour, sixteen ounces one pound and one hundred cents one dollar.

Help me to live so that I can lie down at night with a clear conscience, and without a gun under my pillow, and unhaunted by the faces of those to whom I might have brought pain.

Grant I beseech Thee, that I may earn my meal ticket on the square, and, in the doing thereof may I not stick the gaff where it does not belong.

Deafen me to the jingle of tainted money.

Blind me to the faults of the other fellow—but reveal to me mine own.

Guide me so that each night when I look across the dinner table at the wife, who has been to me a blessing, I will have nothing to conceal.

Keep me young enough to laugh with my children and to lose myself in their play.

And then—

When there comes the smell of flowers—and the tread of soft steps—and the crunching of the hearse's wheels in the gravel out in front of my place—make the ceremony short and the epitaph simple—

“Here lies a man!”

(Stolen from “Doom” and presumably written by Edgar W. Jordan.)

—*The Healthologist.*

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